[vol. 1, no. 1] Nov. 82
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"Where does the consumer's food dollar go?" is a question which everyone has asked at some time. In response, the Statistics Branch of Alberta Agriculture will be releasing occasional publications addressing the issue in an attempt to provide answers.

Prices for various agricultural commodities are being collected by us at three levels in the marketing chain; producer, wholesale, and retail. In all but a few cases the price of a product at one market level differs from the price for that same item at another level because of the marketing functions performed (processing, transport, etc.). This difference, known as the price spread, is being tabulated to observe changes over time in the producer's share of the consumer's dollar. The term 'price spread' will refer to the difference in monetary terms, whereas 'margin' will be used to express the difference as a percentage of the consumer's dollar. For example, while the producer-wholesale spread may be 30¢/unit, the wholesale's margin may be 25%. The total of margins and producer share equal 100%.

Determining price spreads is more complex than subtracting one price from another. In most cases, the food item purchased by the consumer is in a form quite different from the product leaving the farm gate. In order to compare producer, wholesale, and retail prices, adjustments must be made to arrive at a 'retail equivalent' value at each level. Further explanation of adjustments specific to a product will accompany each presentation.

This edition focuses on milk prices for the period of October 1980 to September 1982. As milk prices at all levels are affected by price regulation, changes have been gradual and in most cases correspond directly with decisions of the Public Utilities Board (PUB).

The following graphs and descriptions outline the price movement at producer, wholesale, retail levels, the detail of each price component, and the rate of price changes.

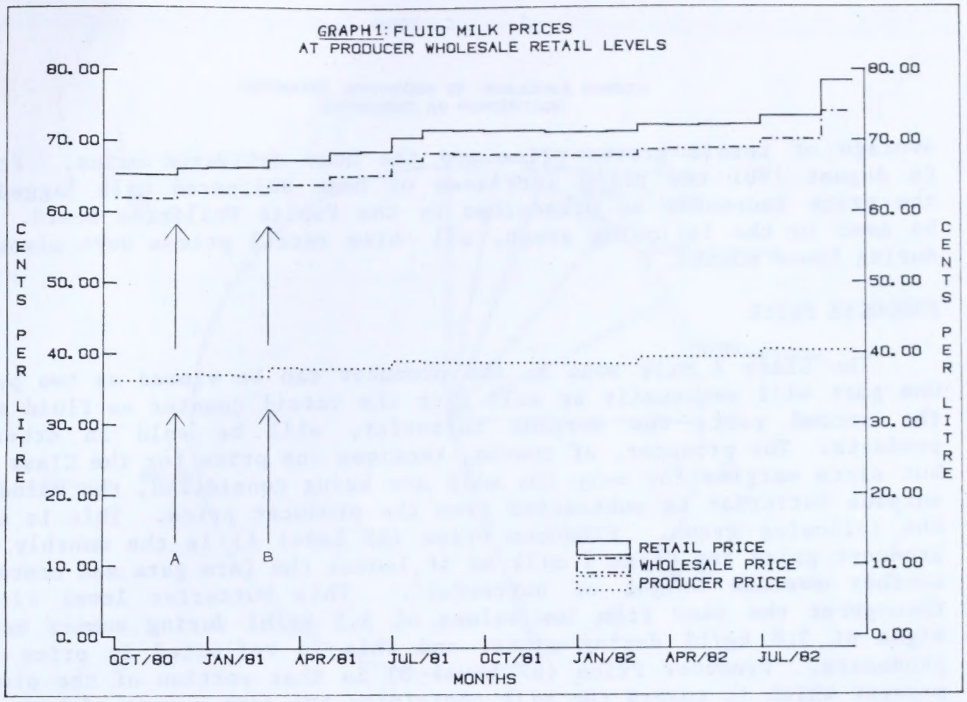
Market margins changed very little during the period under observation. Out of the dollar paid by the consumer for milk, approximately 4% remains with the retailer, 41% with the wholesaler, and 55% remains with the producer. Over the past months the wholesale-retail spread remained unchanged at 3.3 to 3.5¢ per litre, representing a decrease in the retailer margin from 5% to 4%. After the recent PUB hearing, the wholesale-retail spread has been increased to 4¢ per litre, restoring the retail margin to 5%. During this period the wholesale, or processor, margin fluctuated from 38% to 41% while the producer's share of the consumers' dollar varied between 51 and 56%. This constant trend is apparent on Graph 1.

RETAIL EQUIVALENT AT PRODUCER, WHOLESALE, RETAIL LEVELS

	Producer	Wholesale	Retail
October 1980	.362	.619	.653
November	.362	.619	.653
December	.372	.628	.662
January 1981	.370	.628	.663
February	.368	.629	.663
March	.380	.639	.674
April	.378	.639	.674
May	.378	.651	.684
June	.379	.652	.685
July	.388	.673	.705
August	.386	.683	.716
September	.386	.681	.715
October	.385	.680	.714
November	.385	.680	.714
December	.385	.678	.712
January 1982	.384	.678	.712
February	.384	.679	.713
March	.394	.688	.722
April	.394	.688	.721
May	.394	.689	.722
June	.394	.689	.723
July	.405	.701	.734
August	.403	.701	.734
September	.403	.741	.785

The above chart tabulates the retail equivalent prices for one litre of milk at the producer, wholesale, retail levels and these are the figures plotted in Graph 1.

Increases in December 1980 and March 1981 (points A & B on Graph 1) were due to 1¢ per litre price increases at all three levels as prescribed by the Public Utilities Board. From May through July 1981, a series of increases resulted in an extra 1¢ per litre for the producer, and an additional 3¢ per litre for wholesale and retailer with consumer paying 4¢ more per litre in August than in April (6% increase). A 1¢ per litre increase in the producer price in March 1982 was passed along at wholesale and retail levels. A similar 1¢ per litre increase at all three levels came into effect July 1982. When producer prices are raised according to the producer pricing formula, wholesale and retail prices rise by at least the same amount. In September 1982 PUB prescribed as increase of 4¢ per litre in the minimum wholesale price and 5¢ per litre in the minimum retail price, widening the wholesale-retail spread by 1¢. In addition to these increases, there were minor changes in the milk prices which are discussed in the following paragraphs.



NOTE: See following chart for estimated breakdown of wholesale margin.

RETAIL PRICE

The minimum retail price for controlled areas as prescribed by the Public Utilities Board has been used as the effective retail grocer price since the bulk of milk is purchased by the consumer from the chain stores. Independent grocers and convenience stores do sell milk at prices above the minimum but this percentage of total sales is insignificant. Both the prices and volume sold of seven different fluid milk products in five container sizes are used in the calculations to arrive at a monthly retail grocer price. This includes homogenized, 2%, skim, chocolate, ultrahigh-temperature chocolate and plain, and buttermilk in .25, .5, 1, 2, and 4 litre containers. The long term trend indicates that low fat (2%) milk products are becoming a larger percentage of total milk sold. Because milk is a staple food item, in the short term the percentage of each milk product sold is relatively constant, however, some seasonal variation does occur. During summer months, consumers tend to purchase smaller container sizes and more UHT (ultrahightemperature) milk products. When these more expensive items make up a larger percentage of total milk sold, this will reflect in higher average retail prices.

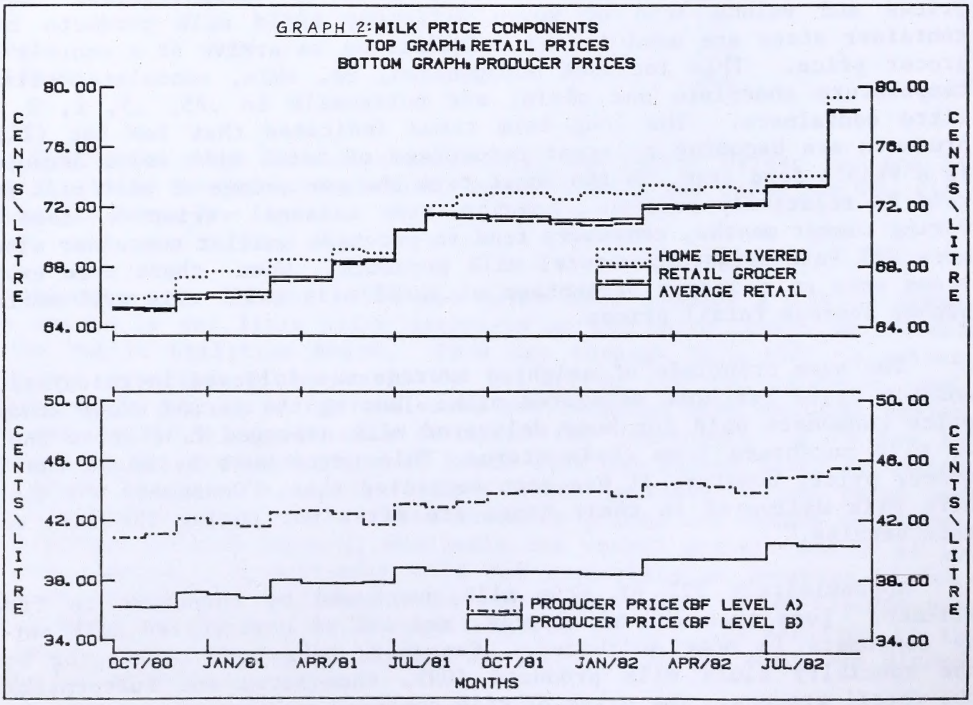
The same principle of weighted average was followed in calculating the monthly price for home delivered milk. During the period under study, the price consumers paid for home delivered milk averaged 1.5¢ above the price of milk purchased from chain stores. This price must be above the retail grocer price, however, it has been suggested that, "Consumers who choose to have milk delivered to their homes are often not paying the full cost of this service."[1]

Approximately 22% of skim milk purchased by consumers is from the milkman. Less than 20% of 2% milk, and 15% of homogenized milk purchased by consumers is home delivered. Consumers have been purchasing more of the specialty fluid milk products (UHT, chocolate, and buttermilk) from the retail grocers. The price of milk consumed at home is a weighted

average of retail grocer price and the home delivered price. From June to August 1981 the price increases of home delivered milk lagged behind the price increases as prescribed by the Public Utilities Board. As can be seen in the following graph, all three retail prices were almost equal during those months.

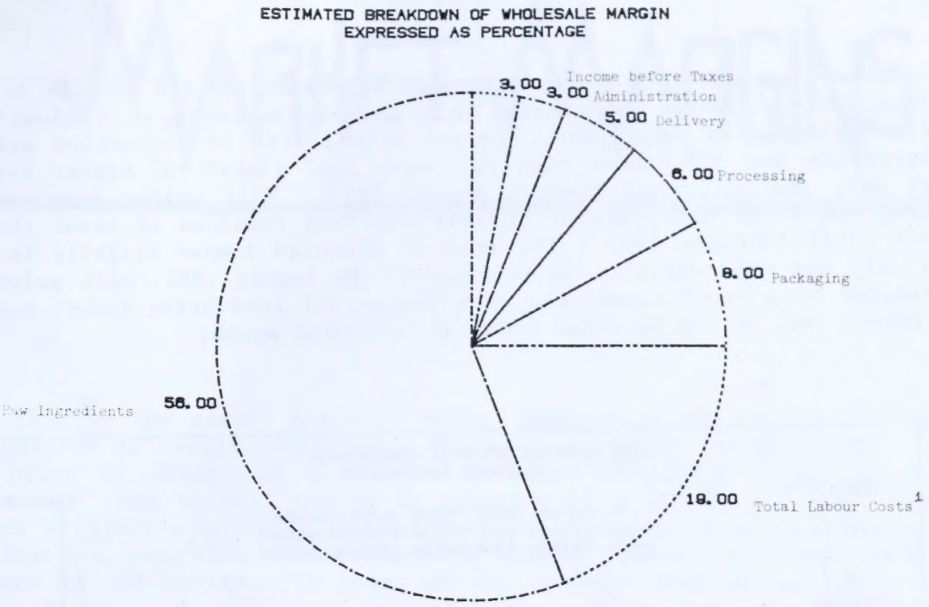
PRODUCER PRICE

The Class I milk sold by the producer can be viewed as two products. One part will eventually be sold over the retail counter as fluid milk and the second part, the surplus butterfat, will be sold in other dairy products. The producer, of course, receives one price for the Class I milk, but since margins for only the milk are being considered, the value of the surplus butterfat is subtracted from the producer price. This is shown in the following graph. Producer Price (BF Level A) is the monthly average producer price for Class I milk as it leaves the farm gate and contains the monthly average weight of butterfat[2]. This butterfat level fluctuates throughout the year from low values of 3.5 kg/hl during summer months to highs of 3.8 kg/hl during winter and this is reflected in price paid to producers. Producer Price (BF Level B) is that portion of the producers' payment which is toward the milk containing the same amount of butterfat as the milk sold that particular month at the retail level. It is the price for the retail equivalent for example; in July 1982, every 100 litre of Class I milk shipped by producers contained an average of 3.5 kg of butterfat. Every 100 litres of milk purchased by consumers that month contained an average of 2.4 kg of butterfat. The difference between lines A and B represents the value of this surplus butterfat on a per litre basis which in July was 4.36¢.



A. Producer Price for Class I milk leaving farmgate at provincial monthly average butterfat levels (3.5-3.8kg/hl).
B. Producer Price for Class I milk at retail equivalent butterfat levels (2.4kg/hl).

GRAPH 3



[1] Includes Labour Costs for Packaging, Processing and Delivery.

WHOLESALE PRICE

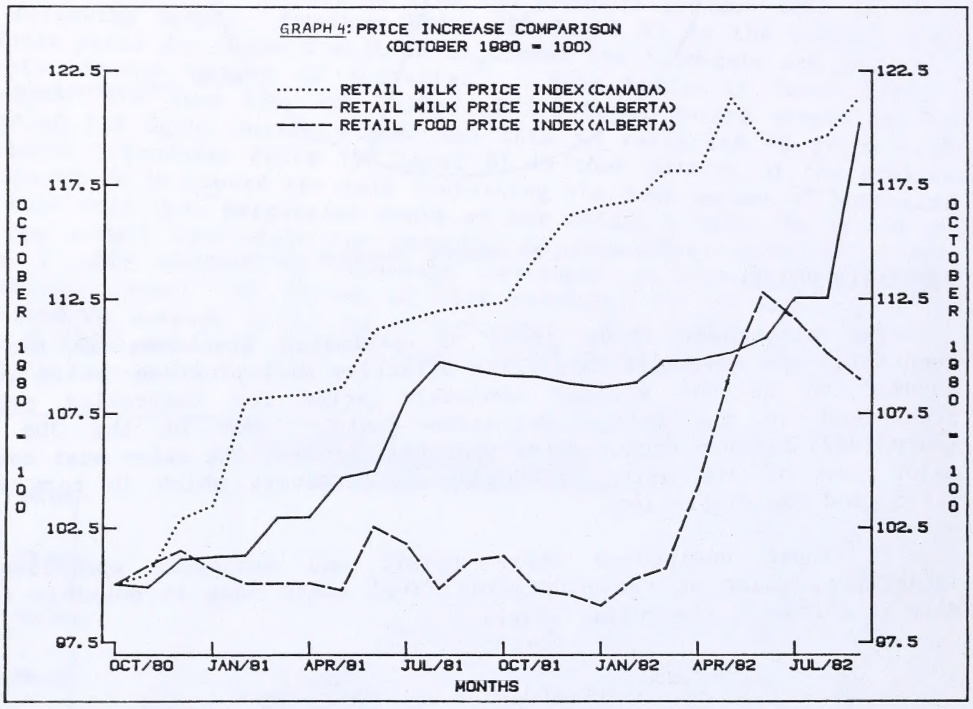
The pie chart above gives an estimated breakdown of the costs comprising the wholesale margin.The effective milk processor price has been assumed to be the minimum wholesale price for controlled areas as prescribed by the Public Utilities Board. Out of the 30¢ spread (July 1982) between producer and wholesale prices, the dairy must cover the major cost of processing, packaging and delivery which in turn require labour and administration.

In those businesses where retail and wholesale operations are integrated, gains at the processing level could make it possible to sell milk at a loss at the retail level.

CALENDAR OF PUB INCREASES
(Cents Per Litre)

	Producer	Wholesale - in controlled areas -	Retail
December 1980	.98	1¢	1¢
March 1981	.98	1¢	1¢
May 1981	-	1¢	1¢
July 1981	.98	3¢	3¢
March 1982	.98	1¢	1¢
July 1982	.98	1¢	1¢
September 1982	-	4¢	5¢

Across Canada, milk prices increased approximately 21% for the 24 month period covered, while in Alberta milk prices increased at a slower rate until September of this year. Retail milk prices in controlled areas of Alberta are now 20% higher than two years ago, almost 10% higher than one year ago, and 7% higher than in August 1982. Milk prices rose steadily during the first eight months of 1981 and then remained at about the same level until February 1982. The rate of increase jumped slightly in March and July and substantially in September. By August 1982, milk prices had increased to a level comparable with the retail food price index, but at a different rate as can be noted from the following graph.



[1] Food Prices Review Board, Dairy Foods 1 : Prices, December 1975, page 13.

[2] The skim off levy on Class I milk has not been included in the calculation of producer price. This remains at a rate of $0.3015 per hectolitre.

November 1982
Alberta Agriculture
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MARKET MARGINS

CANADIANA

JUL 8 1983

This is the second issue of Market Margins, a new publication providing information on retail, wholesale, and producer price relationships. How can the price of wheat and the price of bread be compared and why are they different? How is beef priced in relation to a live steer? The Statistics Branch of Alberta Agriculture addresses the question of price spreads in this publication, and with observations at market levels over time, will follow changes in the marketeer's share of the consumer food dollar. This issue of Market Margins, which focuses on beef price spreads, begins by clarifying some terms and assumptions.

'Price spread' refers to the difference in price for the same product at different market levels. It is expressed in dollars per unit, whereas the term 'margin' will be used to express this difference as a percentage of the consumer's dollar. All spreads plus producer price total the retail price. All margins plus the producer's share equal 100%. In no way do margins thus calculated indicate profit. Margins referred to are gross margins, not profit margins, and include cost plus profit or loss.

* * *

The T-Bone steak on the grill is hardly recognizable as the steer sold on the hoof two weeks ago. Before comparing beef prices at different levels in the marketing chain, it must be recognized that a pound of steer does not equal a pound of steak. It is essential to price an equivalent product at each level. To do so requires two assumptions concerning the yield of retail meat from a steer and the form in which this meat will be sold.

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Cutability tests show that 2.34 pounds of live steer are required to produce one pound of retail meat. This would indicate that from a 1000 pound steer, for example, a yield of 428 pounds of retail cuts could be expected. The yield can vary with marketing decisions which channel some items either as by-products or specialty retail items, depending on demand. The percentage of by-products which will reach the retail shelf either as fresh or processed products does change.

Secondly, there is variation in the form in which this meat is sold. A differing percentage of roast, steaks, boneless or semi-boneless cuts may be obtained from a primal cut, depending on the particular market reached by the retailer. It would be incorrect in price spread calculations to simply average prices of all expensive and economy cuts. For example, out of a hundredweight of carcass a retailer could sell approximately 13.2 pounds of ground beef but only 1.4 pounds of porterhouse steak. Therefore, assumptions must be made as to the form in which primals will be marketed, and as to the yield of these per unit weight of carcass. Prices are weighted according to the yield of each cut to derive a weighted average price.

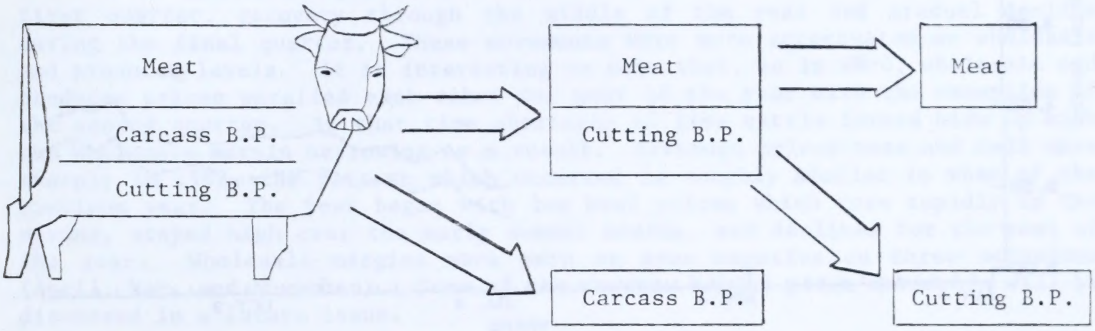
After obtaining a weighted average retail price, the retail and producer price can be compared using the conversion factor of 2.34 (that value of live animal to retail meat). The producer price is converted to a retail equivalent price and the two values, now on a common unit weight basis, may be compared. (Conversely, the retail price may be converted to a "producer equivalent price" using the opposite calculation.)

Between the producer and retailer is the packer who performs the processing and wholesaling function. The trend within the beef industry is toward sales of boxed beef (cryovac subprimals) and fewer sales of swinging carcass to the retailer. In this presentation, however, the packer price is assumed to be the carcass price.

Just as one pound of steer does not equal one pound of retail meat, nor does one pound of carcass equal one pound of retail meat. If the retailer purchased directly from the producer, it would be necessary to buy 2.34 pounds of steer per pound of retail meat required. But because the retailer buys from the packer, who performs the slaughter and retains the carcass by-products, it is necessary to buy only 1.33 pounds of carcass per pound of retail meat required. As the retailer converts the carcass into saleable beef cuts, fat and bone are also obtained and are known as the cutting by-products. For example, out of 133 pounds of carcass, 100 pounds of retail meat could be sold. Therefore, to obtain a retail equivalent wholesale price, the conversion factor of 1.33 is used. (In order to sell a pound of carcass to the retailer, the packer has had to purchase 1.75 pounds of steer. $1.75 \times 1.33 = 2.34$)

* * *

It has already been mentioned that as the steer is converted into retail meat, by-products are obtained at both wholesale and retail levels. In effect, the by-products may be viewed as another product within the steer as illustrated below.



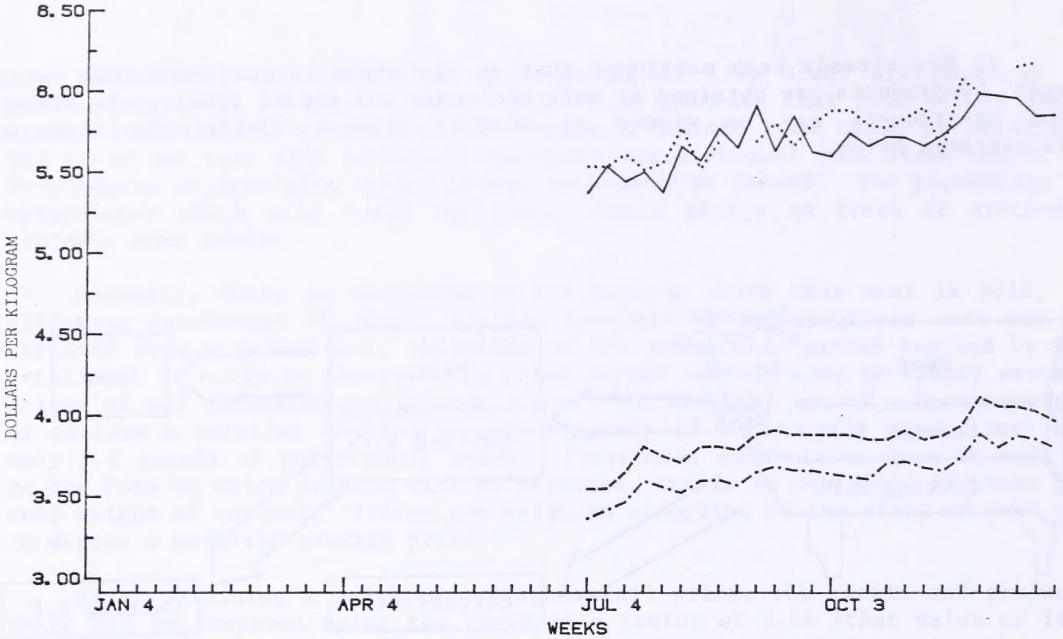
When the packer pays a price for a live steer he obtains meat, carcass by-products, and cutting by-products. It is necessary to calculate the portion of that price which is payment for the meat only. Similarly, when the retailer pays for the carcass he obtains meat and cutting by-products, and it is necessary to calculate the portion of the carcass price that is payment for the meat only. After having converted producer and wholesale prices to a retail equivalent, then adjustments are made for the by-product values and prices at the three levels may be compared. Unless otherwise indicated, producer and wholesale prices quoted in this study refer to the retail equivalent price, less the by-product value.

The time required before a live steer is sold as meat across the retail counter will vary with market conditions. In this series, both carcass and live prices have been lagged two weeks in relation to retail prices.

The above background information has been provided in order that the following discussion of price spreads may be better understood and more useful to the reader.

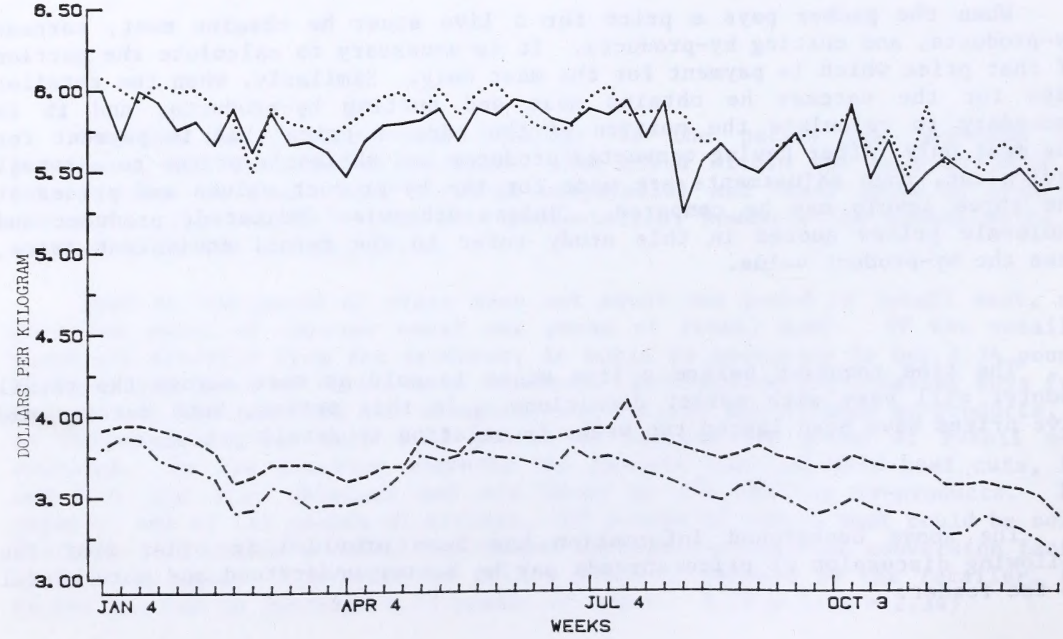
* * *

BEEF PRICE SPREADS
1980



EDMONTON RETAIL ····· CALGARY RETAIL ------ NET CARCASS (Retail equivalent) -·-·- NET FARM (Retail equivalent)

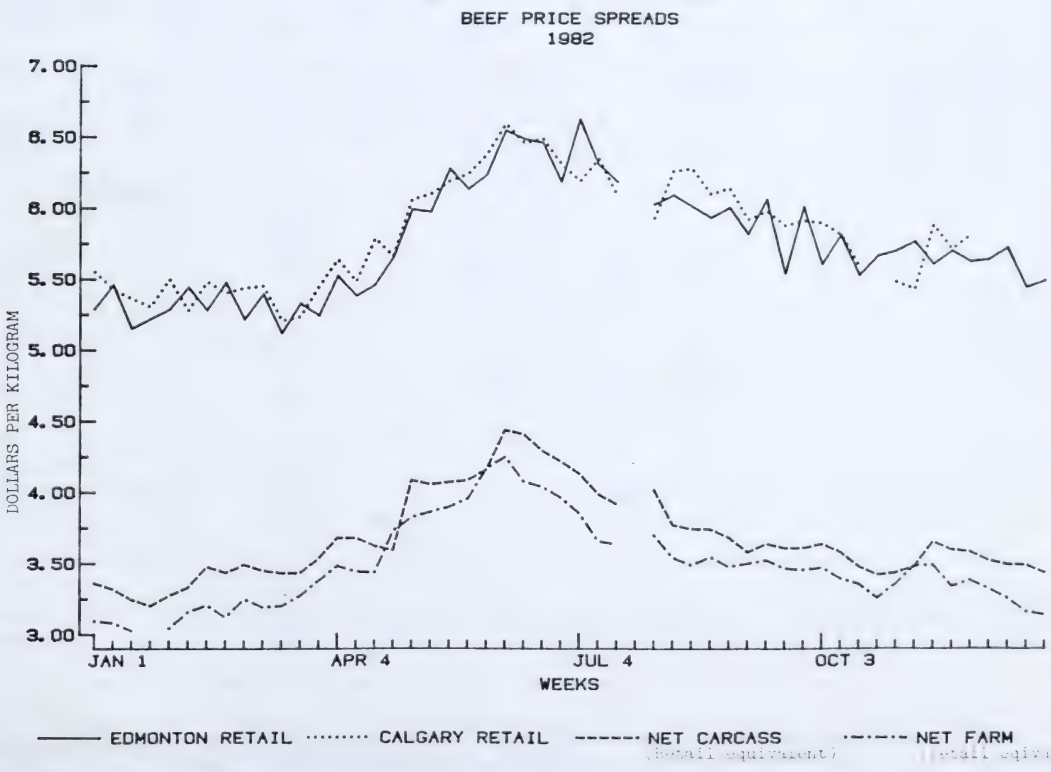
BEEF PRICE SPREADS
1981



EDMONTON RETAIL ····· CALGARY RETAIL ------ NET CARCASS (Retail equivalent) -·-·- NET FARM (Retail equivalent)

In the three graphs titled Beef Price Spreads, weekly data has been plotted for average retail prices in both Edmonton and Calgary, and for weekly wholesale and producer prices. The time period covered extends from July 1980 through December 1982. A glance across these graphs reveals a general trend as well as a few highlights worth mentioning.

During the second half of 1980, beef prices moved slowly upward while wholesale and producer prices followed each other quite closely. Beef prices drifted downward through 1981 but closer examination reveals a dip in the first quarter, recovery through the middle of the year and gradual decline during the final quarter. These movements were more accentuated at wholesale and producer levels. It is interesting to note that, as in 1980, wholesale and producer prices paralled each other for most of the year with the exception of the second quarter. At that time shortages of live cattle forced bids up with the wholesale margin narrowing as a result. Although prices rose and fell more sharply in 1982, the pattern which occurred is roughly similar to that of the previous year. The year began with low beef prices which rose rapidly in the spring, stayed high over the early summer months, and declined for the rest of the year. Wholesale margins were zero or even negative on three occasions (April, May, and November). Some of the reasons behind price movements will be discussed in a future issue.



To derive Table 1, the weekly plotted values shown in the graphs have been summarized by quarter. Quarterly averages for retail, wholesale, and producer price are shown as well as the price spreads and margins. So that changes can be more easily discerned, these values have been indexed to the third quarter of 1980, the designated base period. Thus the figures in parentheses indicate percentage change over the time period under study. For example, the average retail price increased from $5.64/kg in the third quarter of 1980 to $5.86/kg in the following quarter. The index changed from 100 to 104 indicating a 4% increase in the average retail beef price during that time period.

Scanning Table 1, it can be seen that actual price changes do not necessarily correlate with margin changes. For example, while the retail price increased 4% from the third to the fourth quarter of 1980, the retailer's share of the consumer's dollar decreased from 33.3% to 32.8%. Although this margin dropped 0.5%, the index in parentheses indicates that the retailer's share fell to 98% of what it was in the base period.

The indices can also be used to point out that the same monetary change in the price spread can have a different effect on the margin, depending on whom in the marketing chain the change affects. Again looking at the last two quarters of 1980, it can be seen that while the retail-wholesale spread increased 4¢, which was a 2% increase, the retailer's margin decreased. The wholesale-farm spread increased by only 1¢ over the same time period, but this was a 5% increase and enabled the wholesale margin to remain the same. The concept of margins can be visualized as pie-sharing. As the pie grows (i.e. retail price increases) if each piece of pie grows proportionately, the margins will remain unchanged. For the margins to have remained unchanged in the fourth quarter of 1980, given the increase of 22¢ in the size of the "pie", the net carcass price would have had to have been $3.91/kg and the net farm price $3.70/kg.

* * *

The data used in the graphs and table is discussed in the following two sections. In the first, annual changes are summarized by market level and in the second, changes are discussed by quarter.

TABLE 1

QUARTERLY BEEF PRICES,
PRICE SPREAD AND MARGINS
(DOLLARS PER KILOGRAM)

		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Retail Price	1980			5.64 (100)'	5.86 (104)
	1981	5.83 (103)	5.84 (104)	5.74 (102)	5.56 (99)
	1982	5.35 (95)	6.07 (108)	6.07 (108)	5.67 (101)
Net Carcass Price (Retail Equivalent)	1980			3.76 (100)	3.94 (105)
	1981	3.77 (100)	3.78 (101)	3.81 (101)	3.60 (96)
	1982	3.39 (90)	4.03 (107)	3.79 (101)	3.54 (94)
Net Farm Price (Retail Equivalent)	1980			3.56 (100)	3.73 (105)
	1981	3.59 (101)	3.67 (103)	3.57 (100)	3.33 (94)
	1982	3.16 (89)	3.85 (108)	3.58 (101)	3.35 (94)
Retail-Wholesale Spread	1980			1.88 (100)	1.92 (102)
	1981	2.06 (110)	2.06 (110)	1.93 (103)	1.96 (104)
	1982	1.96 (104)	2.04 (109)	2.28 (121)	2.13 (113)
Wholesale-Farm Spread	1980			.20 (100)	.21 (105)
	1981	.18 (90)	.11 (55)	.24 (120)	.27 (135)
	1982	.23 (115)	.18 (90)	.21 (105)	.19 (95)
Retail-Farm Spread	1980			2.08 (100)	2.13 (102)
	1981	2.24 (108)	2.17 (104)	2.17 (104)	2.23 (107)
	1982	2.19 (105)	2.22 (107)	2.49 (120)	2.32 (112)
Calculated Retailer's Share (Margin)	1980			33.3% (100)	32.8% (98)
	1981	35.4% (106)	35.2% (106)	33.6% (101)	35.3% (106)
	1982	36.6% (110)	33.5% (101)	37.5% (113)	37.6% (113)
Calculated Wholesaler's Share (Margin)	1980			3.5% (100)	3.5% (100)
	1981	3.0% (86)	2.0% (57)	4.2% (120)	4.8% (137)
	1982	4.2% (120)	3.0% (86)	3.5% (100)	3.2% (91)
Calculated Producers Share (Margin)	1980			63.2% (100)	63.7% (101)
	1981	61.6% (97)	62.8% (99)	62.2% (98)	59.9% (95)
	1982	59.2% (94)	63.5% (100)	59.0% (93)	59.1% (94)

' Values have been indexed to the first number in each series. Base level = 100 with the base period being the third quarter of 1980.
Numbers in brackets are indices and indicate percentage change between the base period and any given quarter.
eg. An index of 104 indicates an increase of 4% since 3rd quarter 1980.

Retail

The average Alberta beef retail price increased during the latter half of 1980, gradually moved back down through 1981, rose steeply in the first half of 1982 and then declined to $5.67/kg, a price just 3¢ higher than the base level. The retail-wholesale spread increased 13% over the time period. It fluctuated between $1.88 and $2.28/kg but was never less than the base level. The retail-farm spread also increased, by 12%, and fluctuated between $2.08 and $2.49/kg.

While the retail price varied from 99 to 108% of the base level and the retail-wholesale spread fluctuated over 100%, the general trend for the retailer's margin has been to increase. Although the retailer's share of the consumer's dollar has only increased from 33.3 to 37.6% this represents an increase of 14% over the ten quarters documented.

Wholesale

The carcass price increased during the latter half of 1980, dipped and rose in the first half of 1981, and then declined for the rest of the year. A similar pattern was followed in 1982; the price moved up sharply in the second quarter, dropped back down, and then declined for the rest of the year to 94% of the base level. The wholesale-farm spread dipped to a low of 11¢ during the second quarter of 1981 to reach 27¢ by year end and drifted down throughout 1982. The wholesaler's margin followed the same pattern with a low of 2% and high of 4.8%.

While the net carcass price fluctuated 17% around the base level, the wholesale-farm spread fluctuated 80% with a low of 55% during the second quarter of 1981 and a high of 135% later that year. Similarly, the wholesaler's margin fluctuated 80% around the base level with a low of 57% and a high of 137% during the second and fourth quarters of 1981 respectively. In the third quarter of 1982, wholesale price, spread, and margin were at or slightly above the base level but ended the year between 91 and 95% of original values.

Producer

The net farm price increased during the latter half of 1980, dropped in the first quarter of 1981, then recovered only to drift downward for the rest of the year. Out of a low at the start of 1982, the price both rose and fell sharply in the second quarter and then moved gradually to 94% of the base level. The net farm price moved between $3.16 and $3.85/kg., a fluctuation of 69¢.

While the net farm price deviated 19% about the base level, the producer's share varied half as much (8%). At the end of 1982 the producer's share was 59.1% compared with 63.2% in the base period.

Quarterly Changes

In the following section, changes are discussed by quarter.

1980

At the beginning of the third quarter, ample wholesale supplies held down prices until American purchases in August put upward pressure on live prices. Toward the end of the quarter, supplies increased due to onset of winter culling. This, in addition to a meat cutters' strike in Calgary, led to lower prices for live cattle.

In the fourth quarter slaughter cattle were generally in large supply, due to increased kills and imports from the US. Media coverage on low beef cost in mid November stimulated demand and resulted in price increases throughout the marketing system. Prices increased at all three levels by 5%, but only the producer's margin increased by 0.5% while the retailer's dropped by the same percentage.

1981

In the first quarter continuous large supplies kept prices down at the producer and wholesale levels. The end of February saw increased market activity, rise in prices, followed by another slump. All three prices dropped; by 1% at the retail level, by 4 and 5% at wholesale and producer levels. The retail-wholesale spread, nevertheless, did increase by 14¢/kg, an increase of 8% from the last quarter. The retailer's margin increased by 2.6%, the wholesaler's dropped by 0.5% and the producer's dropped by 2.1%.

Shortages of live cattle forced prices up through the first part of the second quarter with wholesale-farm spread narrowing as a result. Greater numbers as well as American competition in May brought prices down again. Dampened demand was blamed on cool weather (poor for barbeques) and prices increased only slightly at the three levels. The retail-farm spread decreased 4% due to a drop of the wholesale-farm spread to 11¢ - the lowest quarterly spread during the period under study (55% of the base level). The retailer's margin decreased slightly, the wholesaler's margin decreased by 1%, while the producer's share increased by this 1.2%.

In the third quarter, general decline in prices was due to slow movement of beef throughout the industry. Both the retail and farm price decreased by 10¢ while the carcass price rose 3¢. The retail farm spread remained the same at $2.17/kg but out of that, the wholesaler received 24¢ compared with 11¢ last quarter. Both the retailer and producer's margin dropped by 0.6% while the wholesaler's margin increased 1.2%.

Increased exports to the US at the beginning of the fourth quarter kept domestic supplies tight and prices up. Then large slaughterings and increased imports, due to the strength in the Canadian dollar, kept bids down. An earlier than usual Christmas slowdown in demand kept prices dipping throughout December. Although all three prices dropped substantially, the retail-farm spread increased due to 3¢ increases in both retail-wholesale and wholesale-farm spreads. Therefore, the retail and wholesale margins increased while producer margin decreased 2.3%.

1982

In the first quarter, poor movement at the retail level was partially due to changeover to metric sales. Competitive bidding by Eastern packers pulled up prices midway through the quarter and the large increase in supply which followed leveled off prices. Prices at all three levels dropped again to levels 10% below prices one year earlier. Although the retail-wholesale spread remained at $1.96/kg, the retailer's margin increased by 1.3%. Both wholesale and producer share dropped approximately 0.6%.

The second quarter began with poor movement, but tight supplies in mid April combined with low packer inventories, pushed bids higher. Retail prices increased correspondingly and as barbeque season approached and consumers anticipated even higher future prices, movement of beef improved. Early in June, high beef cost was covered by the media, consumer resistance increased and demand declined. Nevertheless the quarterly prices increased substantially at all levels. While the total retail-farm spread increased by only 3¢, the wholesale-farm spread actually decreased by 5¢. Despite this, the retail margin dropped 3.1%, the wholesaler's dropped 1.2% with a large quarterly increase in the producer's margin of 4.3%.

Demand continued to decline throughout the third quarter. Increased slaughterings and a decrease in herd inventory was blamed on poor economy. Exports to the US and Eastern Canada kept live prices from falling yet lower. Despite no change in the retail price, both retail-wholesale and wholesale-farm spread increased for a total spread which was 20% above the base level. The retail margin was at a peak of 37.5%, wholesale margin was back to 3.5% and producer's share was at its lowest level of 59.0%.

The fourth quarter began with large supplies of slaughter cattle. Although numbers decreased in November and prices were bid up, there was no corresponding increase in demand by retailers. The Christmas slowdown set in and prices declined to the year end. Quarterly prices dropped at all three levels and although retail-wholesale and wholesale-farm spreads both dropped, the retailer's share increased slightly.

* * *

Over a short time period margins are relatively stable since, at each market level, fixed costs exist which are inflexible and must be covered in order for businesses to remain viable. As unit costs decrease with an increase in volume handled, variations in margins can be better withstood. From the data tabulated thus far it appears as if the wholesaler margin fluctuated more widely in comparison with the retailer and producer margins.

June 13, 1983
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MARKET MARGINS

CANOLA

Canola is grown primarily for its oil, with rapeseed meal produced almost as a by-product. When the producer delivers a tonne of canola to the crusher, in theory the crusher is receiving two products, oil and meal. The single price paid to the producers is actually payment for both products. What portion of that payment is attributable to the oil?

Using industrial extraction rates, it has been determined that approximately 419 litres of refined oil and 0.57 tonnes (1257 pounds) of meal can be produced from a tonne of canola. The retail value can be calculated by multiplying this yield by the retail price per unit. For example, when the retail value of oil ($2.05 per litre x 419 litres = $858.95) is added to the retail value of meal ($210 per tonne x 0.57 tonne = $119.70) this will result in a total retail value of $978.65 per tonne of canola.

Although over half the volume of goods produced from a tonne of canola is meal, only 12% of the retail value in this example is due to the sale of meal ($119.70 ÷ 978.65). The higher priced oil accounts for most of the retail value, 88%, although it is less than 40% of the volume of goods produced.

The percentages derived from the total retail value of canola can be applied to calculate producer's share. For example, of $336 per tonne of canola paid to the producer, 88% can be attributable to the oil contained therein and 12% can be attributable to the meal. The producer received $295.68 (88% x $336) for 419 litres of oil, or 70.5¢ per litre. He also received $40.36 for 0.57 tonne of meal, or $70.74 per tonne.

(As the unit retail prices for meal and oil change, so will the total retail value for canola. This will cause the percentages of the total value attributable to oil, or to meal, to fluctuate, though not widely. These percentages used to calculate the producer's price for oil, or for meal will therefore vary. i.e. 88% used here is not absolutely constant.)

Note: All prices used for illustrative purposes are September 1983 prices.

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The producer's price for oil calculated above, 70.5¢ per litre, is already on a retail equivalent basis as the losses in both processing and packaging have already been taken into account. The refined oil sold by the processor undergoes no further change until purchased by the consumer, other than perhaps changes in volume or packaging.

The price paid by the wholesaler to the processor can be referred to as the processor, or distributor price. In addition, there exist both wholesale and retail prices. It is possible to calculate price spreads between these four marketers.

	Producer	Processor	Wholesaler	Retailer
price received per litre oil	$0.71	1.32	1.77	2.05
price spreads	$0.61	0.45	0.28	
	1.06			
		0.73		
	1.34			
margin allocation	34%	30%	22%	14%

* * *

WHEAT

The current producer price for No. 1 wheat is difficult to ascertain because of the lag that exists between the Canadian Wheat Board announcements of initial and final payments. The total price that the producer receives for wheat sold in August 1983 cannot be definitely stated until January 1985.

One alternative is to take the initial payment, add to it any interim payments, plus an estimated final payment. When the actual total price is finalized, it would be necessary to revise all estimated producer prices dating back 18 months.

Another alternative is to use a portion of the Canadian Wheat Board weekly quotations as the producer price for wheat. This would require assumptions about the percentage of CWB receipts that return to the producer. It would also inaccurately suggest fluctuating weekly producer wheat prices.

As neither of these alternatives are seen to be satisfactory, the weekly producer price for No. 1 wheat on the Producer Wholesale Retail publication has been discontinued.

MARKET MARGINS

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549

In Market Margins, the Statistics Branch of Alberta Agriculture provides information on price spreads and in this issue, the focus is on pork. Price data collected at producer, wholesale and retail market levels is used for the analysis presented for the year October 1982-1983. This is preceded by the following explanation of terms and methodology.

A price spread, expressed in monetary terms, is the difference between prices for the same product at various levels in the marketing system. When expressed as a percentage of the consumer's dollar, this difference is referred to as a margin. All spreads plus the producer price equal the retail price whereas all margins plus the producer's share total 100%. Margins thus calculated are gross margins and do not indicate profit since both cost and profit (or loss) are included.

A hog is neither a pork chop nor entirely bacon. Similarly, to compare the producer price to the price of a single retail cut will not present an accurate picture. Before measuring price spreads, three main steps are required. The hog carcass must be "reconstructed" at wholesale and retail levels to obtain both a weighted average wholesale and retail price. Secondly, producer and wholesale prices must be converted to a retail equivalent base and finally, the value of byproducts must be accounted for.

Carcass cutability tests are used in the first two steps. The yield of each type of cut is determined as well as the total yield of saleable pork from a hog carcass. This is done at both wholesale and retail levels.

[To reconstruct a carcass this way requires two assumptions. Total yield is the best estimate, however, it can vary, especially if processed items such as sausage and luncheon meats are considered. No feasible method exists for tracing these products, which vary in pork content, back to the original hog. Secondly, the form in which the primals are sold does vary according to market conditions. For example, although slab bacon can be found in retail stores, the majority of bacon is sold pre-sliced in vacuum packages. In this methodology, the form in which primals are most commonly sold are the cuts which have been selected to reconstruct the carcass.]

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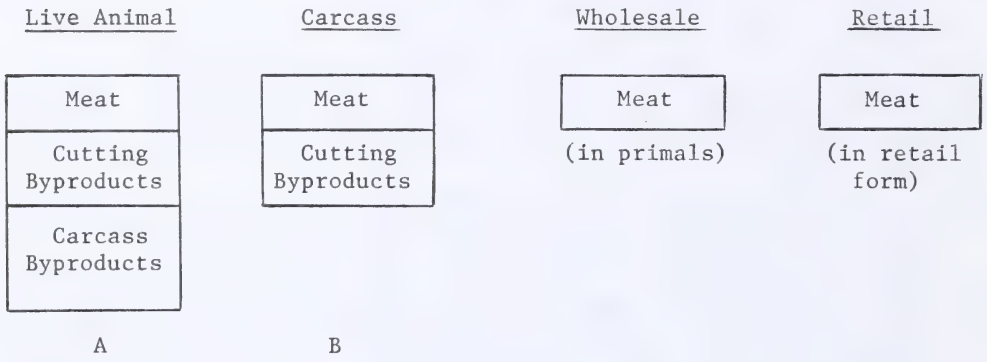
Each cut is weighted by the cut out yield to determine a weighted average price. This is done at both wholesale and retail levels.

The carcass weight divided by the total yield of saleable meat is the amount of carcass required per unit of retail pork. This farm to retail conversion factor can be used to bring the producer price to a retail equivalent. Similarly, the total yield of wholesale cuts divided by total retail cuts results in the wholesale-retail conversion factor used to bring the wholesale price to a retail equivalent.

Once a price has been determined at producer, wholesale, and retail levels and all are on a retail equivalent basis, the byproducts can be accounted for.

The process of converting a live animal into saleable meat usually involves the stages shown below:



NOTE:

1. In some cases, meat in carcass form is broken directly into saleable cuts by the retailer (as was the case until recently, with beef).

2. As wholesale primals are broken into retail cuts there may or may not be additional cutting byproducts.

In the marketing of beef, a producer receives payment for a live animal (point A) which is comprised of meat and all byproducts. When pork is marketed, however, the producer receives payment for the hog in carcass form (point B) including meat and cutting byproducts. To determine what portion of that payment is attributable to the meat only, it is necessary to calculate the value of the cutting byproducts and then subtract it from the producer price. The price of the meat can thus be followed along the marketing chain.

Once these steps have been completed, price spreads between producer, wholesale and retail levels can be calculated. The marketing functions necessary before a hog carcass can be sold as retail pork require time. This time period varies between cuts, for example, ham requires longer periods of processing than does fresh pork. Some time differential must be taken into account and in this series, wholesale and producer prices have been lagged one and two weeks, respectively, to retail prices.

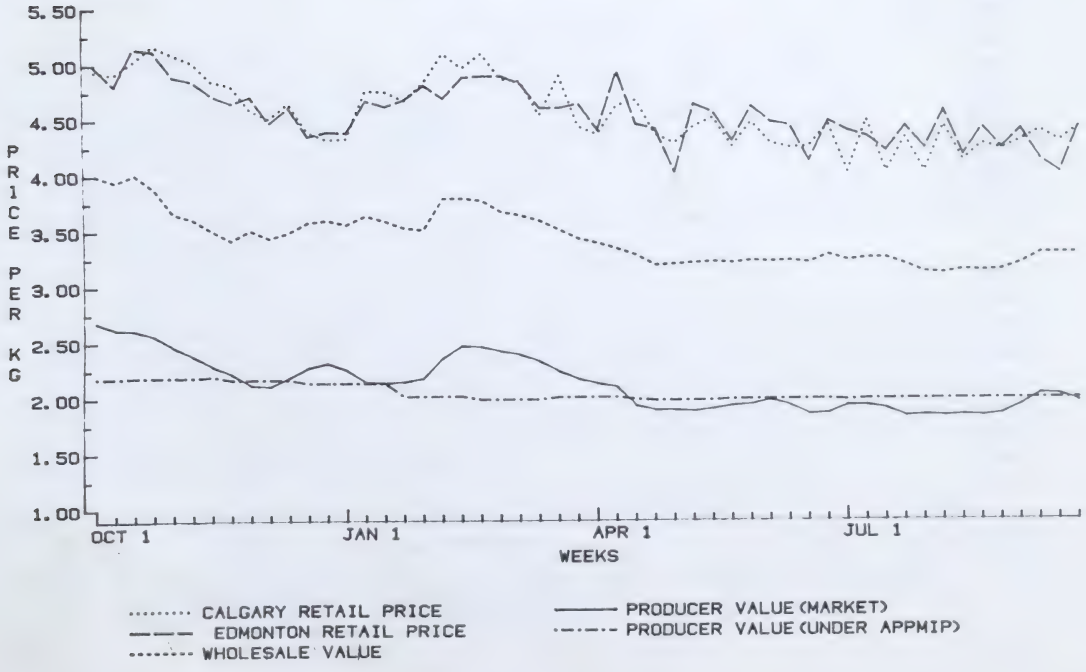
The above information has been provided with the intent that the following, as well as future discussions of price spreads, be better understood and more useful to the reader.

* * *

Overview

Plotted in the following graph are pork prices at retail, wholesale and producer levels for a one year period. At retail level, the weighted average retail price is plotted for both Edmonton and Calgary. The wholesale value is also a weighted average price, retail equivalent, and is lagged one week. Two producer values are plotted; one based on the price producers would receive at market and another price based on possible payments under the Alberta Pork Producers Market Insurance Plan. Both prices are adjusted for the average index, converted to retail equivalent, and the value of byproducts is subtracted. All prices are given as dollars per kilogram.

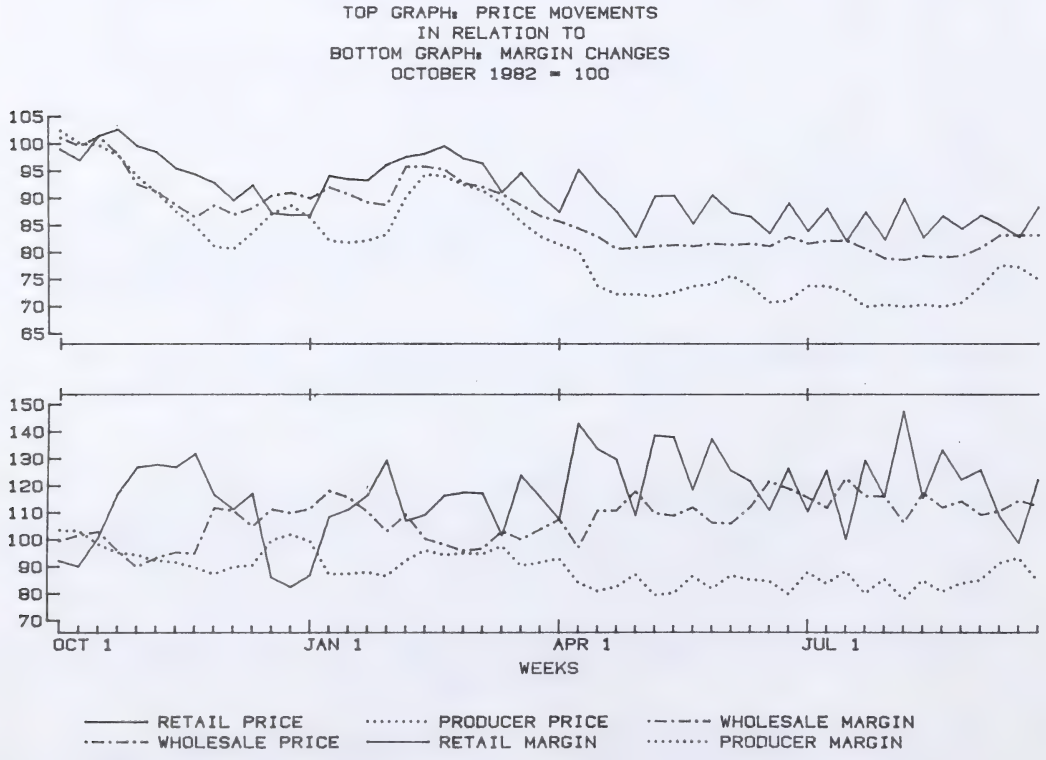
PORK PRICES
AT PRODUCER WHOLESALE RETAIL LEVELS
1982 - 1983



Data collection made possible with the co-operation of industry participants and the Department of Rural Economy, University of Alberta.

The time lag incorporated into the plotted series makes it possible to follow the patterns repeated at all three market levels. The general trend over the four quarters was downward, largely due to the expansionary phase within the hog cycle, but also because of prevailing economic conditions. With continuous high marketings for most of the last quarter of 1982, prices dropped sharply and then moved sideways until the end of January. A short-lived rise in prices at all three levels occurred when an outbreak of hoof and mouth disease in Denmark prompted expectations of increased export demand early in 1983. Prices continued to drift down to the end of April and showed little change until July as increased seasonal demand compensated for downward price pressure from increased marketings. After a shallow dip during midsummer, prices began climbing in August when hot temperatures reduced U.S. marketings. By the end of September 1983, prices were down 20%, 13% and 10% from 1982 fourth quarter averages at producer, wholesale and retail levels.

Using the set of graphs that follow, it is possible to compare the rate of price changes to the rate of change in margins over the period October 1, 1982 to September 30, 1983. Each of the six series, retail, wholesale, producer prices and retail, wholesale, producer margins, has been indexed to the average of the first four values within each series. ie. October 1982 is the base period; the base level equals 100.



Fourth Quarter 1982

Following the two solid lines on the graphs, it can be seen that although the retail price decreased 12% over the first three month period, the retail margin fluctuated widely from 132% to 83% of the base level. When the retail price increased 3% the end of October, the margin increased 17% because of simultaneous price decreases at producer and wholesale levels. Retail prices declined, but at a slow rate because of expectations that hog prices would recover. Retail margins remained high until December when retail prices fell at the same time wholesale and producer prices were rising. As a result, retail margins plummetted to 83% of the base level.

While the wholesale price decreased 14% and then finished at 90% of the base level, the margin had increased 12% by December. Both price and margin moved downward during the first eight weeks, then while both retail and producer prices fell the end of November, wholesale price rose. As a result, the wholesale margin index shot from 95 to 112. Price and margin hovered for the rest of the quarter.

Although the producer price decreased drastically, the producer margin dropped at a slower rate and increased again to the base level. By the end of November, while the price had dropped 19%, the margin had dropped 13%. For the duration of the quarter, prices climbed to finish at 86% of the base level whereas the margin index was back at 100.

First Quarter 1983

The retail price index moved up, reached the base level in mid-February and then declined to 90 by the end of the quarter. The retail margin index, however, was never under 100 and moved between 102 and 129. High retail margins occurred at times when retail prices rose while wholesale and producer prices fell; these peaks are evident on the graph the fourth, seventh and twelfth weeks of 1983.

The wholesale price declined the first four weeks, rose sharply and then drifted down to 87% of the base level by the end of March. The wholesale margin index began declining from 118 due to falling wholesale prices but then continued its decline despite rising prices at all three market levels. As producer prices began dropping at a faster rate than wholesale prices, the wholesale margin increased again to finish the quarter at 4% above the base level.

The producer price index moved from 82 to 94 and then drifted down to 83 by the end of the quarter. The producer margin index followed the same pattern, but with less variation; the margin moved from 87% to 98% and back to 92% of the base level.

Second Quarter 1983

Price indices at three market levels were all below 100 during this quarter. The retail price rose and fell the first two weeks and then bounced between 83% and 91% of the base level. For a second consecutive quarter, the retail margin remained above the base, at levels between 108 and 143. The initial jump at quarter's beginning was due to both an increase in retail price with simultaneous decreases in wholesale and producer prices. The retail margin index moved along the same pattern as retail price index, showing some amplification. Changes in the retail margin were reflections of changes in the retail price, as there was little activity in wholesale and producer prices.

The wholesale price declined to 81% and wavered along this level for the duration of the quarter. After a brief drop, the wholesale margin climbed above the base level for most of the quarter to finish at 119%. This increase was a result of steady wholesale prices while producer prices moved down and retail prices varied.

The producer price fell 10% and, with the exception of a small rise in May, remained around 72% of the base level. More movement occurred in the producer's margin which fluctuated between 78% and 93%. Particularly in this quarter, correlation is evident between peaks in the producer and wholesale margins and valleys in retail price and margin. (Note the first, fifth and eighth weeks of this quarter on graph.)

Third Quarter 1983

The retail price bounced between 82 and 88% and moved sideways over the quarter. The retail margin index fluctuated widely in an amplified, repeat pattern of retail price movement. When retail prices rose and wholesale and producer prices fell, the retail margin rose 47% above the base level. In the reverse situation the end of September, the retail margin fell back down to the base level.

The wholesale price dipped 3% for the month of August, then rose back to 83% of the base level. The wholesale margin index fluctuated between 6% and 23% above 100 and reflected the inverse pattern of retail margin movements.

The producer price dipped 4% for several weeks, rose to 78% and then drifted downward. The producer's margin jogged slightly downward the first half of the quarter and then rose to 93% of the base level by mid-September.

* * *

The price and margin changes which have been discussed above have been summarized to produce the following table.

QUARTERLY PORK PRICES, SPREADS AND MARGINS

(Dollars per kilogram)

	Producer	Wholesaler	Retail (Average)	(Edmonton)	(Calgary)
4th Quarter 1982	$2.37(2.38)[1]	$3.67	$4.77	$4.75	$4.79
1st Quarter 1983	2.30	3.62	4.74	4.71	4.77
2nd Quarter 1983	1.94(2.01)	3.25	4.43	4.45	4.40
3rd Quarter 1983	1.90(1.99)	3.20	4.28	4.30	4.26

	P-W Spread	W-R Spread	Total Spread
4th Quarter 1982	$1.30	$1.10	$2.40
1st Quarter 1983	1.32	1.12	2.44
2nd Quarter 1983	1.31	1.18	2.49
3rd Quarter 1983	1.30	1.08	2.38

	Producer's Share	Wholesaler's Share	Retailer's Share
4th Quarter 1982	49.7%(49.9%)	27.2%	23.1%
1st Quarter 1983	48.5%	27.8%	23.6%
2nd Quarter 1983	43.8%(45.4%)	29.6%	26.6%
3rd Quarter 1983	44.4%(46.5%)	30.4%	25.2%

	Producer	Wholesaler	Retailer (Average)	(Edmonton)	(Calgary)
Price Changes from 4th Quarter 1982					
1st Quarter 1983	-3.0% (-3.4%)	-1.4%	-0.6%	-0.8%	-0.4%
2nd Quarter 1983	-18.1%(-15.5%)	-11.4%	-7.1%	-6.3%	-8.1%
3rd Quarter 1983	-19.8%(-16.4%)	-12.8%	-10.3%	-9.5%	-11.1%

[1] Note: Numbers in parentheses assume payments under APPMIP.

Over the four quarters, the retail price dropped 10.5% in Edmonton and 12.4% in Calgary; the average retail margin increased 2.1%. Although the wholesale price dropped 12.8% during this period, the wholesale margin increased 3.2%. Using market prices, the producer price dropped 19.8% in a year and the producer margin decreased 5.3%.

[Figures in parenthesis in the table above, indicate the producer price that would be received when payments under the Alberta Pork Producers Market Insurance Plan are taken into consideration. As was shown in Graph 1, the APPMIP price exceeded market price for most of the second and third quarter of 1983 and since over half of Alberta hog producers are covered by the plan, these figures may be more indicative of the producer price. In this case, producer price dropped 16.4% over the four quarters and the producers' return for pork as a percentage of the retail value of pork fell 3.4%, from 49.9% to 46.5%. These latter values cannot be considered margins because the total of all three margins would then exceed 100%.]

Conclusion

Changes that took place over the time period reviewed were consistent with economic theory. When prices fall at producer levels, margins tend to increase at other levels. (Conversely, rising prices are generally accompanied by decreasing wholesale or retail margins.) Over four quarters, prices fell at all three producer, wholesale and retail levels. Of the consumer's dollar spent on pork, the producer's share decreased, while both wholesaler's and retailer's share (or margin) increased. As was apparent in this review, in the short run, prices fluctuate more widely than margins which change more gradually over time.

MARKET MARGINS

This issue of Market Margins covers the changes that took place in the first quarter of 1984. There were no changes in milk prices and therefore milk price spreads and margins changed little. The slight shift in producer and wholesale margins was due to an increase in the butterfat differential.

Beef prices increased at all three market levels and the total price spread narrowed. Consequently, the producer's share of the consumer's beef dollar did increase over the past quarter.

While pork prices increased at producer and retail levels, the wholesale price remained essentially unchanged. As a result, the wholesale margin dropped and the producer and retail margins increased.

At the various market levels, bread prices increased slightly or remained the same. Price spreads changed little for private label bread but widened somewhat for the store label loaf. Hence, the producer's share of the consumer's bread dollar decreased for store bread and increased slightly for private label.

* * *

Milk

The minimum retail and wholesale milk prices, which are scheduled by the Public Utilities Board, did not change in the first quarter of 1984. (April price changes will be included in the next quarter.) Consequently, the average retail milk price remained at 79.5¢/litre and the average wholesale milk price remained at 75.5¢/litre. The gross producer price also remained unchanged. The butterfat differential, however, increased in January by 1¢ to 47¢/100 grams and this increased the value of surplus butterfat. Since the producer price must be adjusted to the retail equivalent basis by subtracting the value of surplus butterfat, the increased value of the surplus butterfat resulted in a slight reduction in the producer price. The producer price was 41.5¢/litre in the first quarter of 1984, down from 41.7¢/litre in the previous quarter.

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Due to the slight drop in producer price, the producer-wholesale spread widened to 34¢/litre. The wholesale-retail spread remained at 4¢/litre and the total producer-retail spread increased slightly to 38¢/litre.

The producer's share of the consumer's milk dollar decreased 0.3% to 52.2% and the wholesaler's share increased by the same amount to 42.8%. The retailer's share remained at 5%.

Beef

Strong demand for slaughter cattle resulted in upward price movement through January. As supplies increased somewhat, pressure on prices dropped off. Offerings were short in March and prices began moving upward again.

- The producer price climbed to $3.65/kg early in January, then varied between $3.55-3.65 for the rest of the quarter. It ended the first quarter at the high of $3.67/kg.

- The wholesale price climbed to peak at $3.97/kg at the end of January, then fell to $3.81/kg. It recovered steadily, but dropped again before ending the first quarter at $3.90/kg.

- The retail prices moved up over $6.00/kg and then down to $5.70/kg by the end of February. During the rest of the quarter retail prices increased, fell, and finally rose to $6.10/kg.

In comparison with average prices in the fourth quarter of 1983, the average producer price at $3.59/kg had increased 9%, the average wholesale price at $3.85/kg was up 10%, and the average retail price at $5.88/kg had increased 1%.

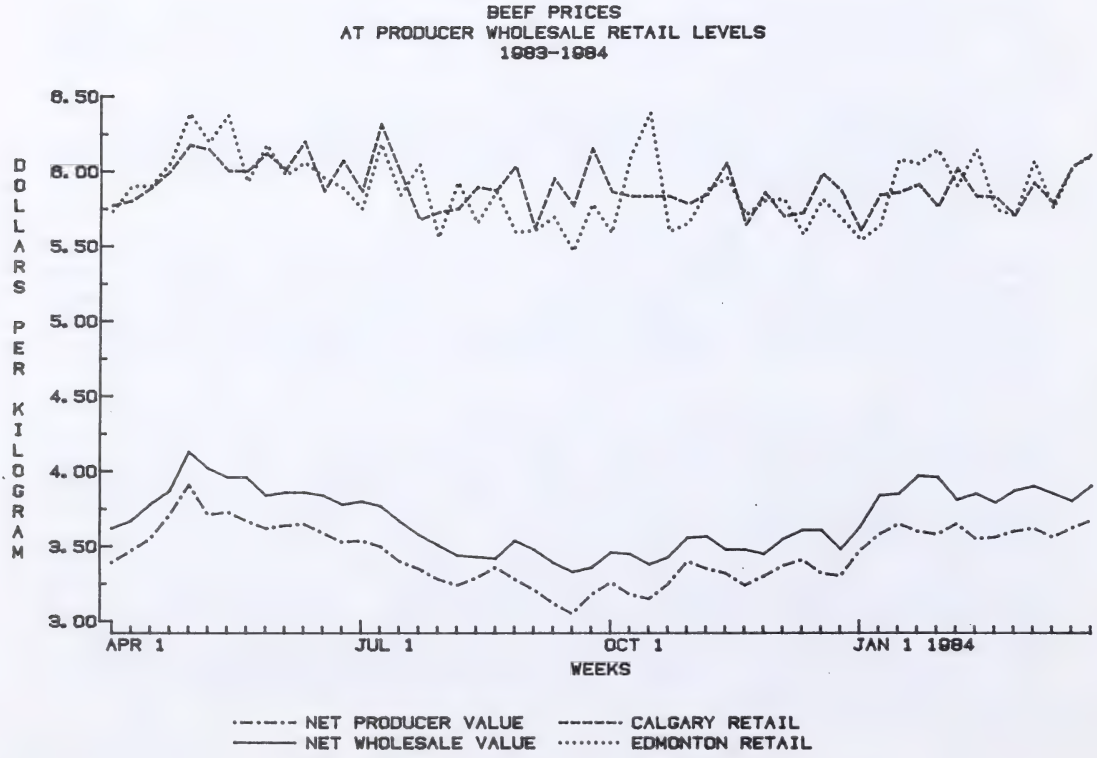
Price spreads widened initially as prices rose at the beginning of the quarter, then narrowed again as both retail and wholesale prices declined and producer prices hovered. Although the producer-wholesale spread increased to $0.26/kg, because the wholesale-retail spread fell 12% to $2.03/kg, the total producer-retail spread decreased 9% to $2.29/kg.

Although prices increased at all three levels, because producer and wholesale prices increased at a greater rate than retail prices, both producer and wholesale margins increased. The producer's share of the consumer beef dollar was 61.1% during the first quarter. This was the highest level attained since the second quarter of 1982 and it follows the general theory that producer margins rise with rising prices. The wholesaler's margin increased from 3.6% to 4.4%, a margin which had not been attained since the fourth quarter of 1981. Out of the consumer's dollar spent on beef, the retailer received 34.5% compared with 39.7% in the previous quarter. This was the lowest retail margin since the second quarter of 1982.

Beef Retail Prices - Comment:

Average weekly retail prices for individual beef cuts can vary as much as 50% around the quarterly average. For example, average weekly prices for sirloin steak ranged 46% about the quarterly average price of $8.95/kg in Calgary; they ranged from $6.49 to $10.56/kg. Average weekly sirloin prices were slightly more stable in Edmonton as they deviated 32% around the quarterly average price of $9.01/kg; they ranged between $7.40 and $10.26/kg. The amount of weekly price variation may also differ with the type of cut. The average weekly prices of shoulder roasts varied approximately 52% around the average quarterly shoulder roast price. Weekly ground beef prices, however, only varied 20% around the average quarterly price of ground beef.

GRAPH 1



Pork

Despite continued expansion and large supplies of hogs, prices increased slightly at both producer and retail levels. As can be seen in graph 2, general price levels were stable at the beginning of 1984 and then moved upward before dropping off at the quarter's end. Demand remained steady and increased exports helped support producer prices.

- The producer price oscillated around $1.78/kg through January, moved up to $1.94/kg in February, and tapered downward the rest of the quarter.

- The wholesale price wavered around $3.05/kg until March when it briefly rose to $3.21/kg and then fell to $2.90/kg at the quarter's end.

- The retail price was higher in Calgary than in Edmonton for the first two months of the quarter. After a brief drop and sharp recovery, the Calgary retail price fell, along with the Edmonton retail price, to end the quarter at $4.00/kg. Average weekly retail pork prices ranged from $3.73 to $4.29/kg in Edmonton and from $3.90 to $4.55/kg in Calgary.

In comparison with quarterly averages in the fourth quarter of 1983, the average producer price had increased 3% to $1.80/kg, the average wholesale price remained virtually unchanged at $3.04/kg, and the average retail price had increased 1% to $4.15/kg.

Price spreads fluctuated slightly in the first part of the quarter, then narrowed in February as the producer price increased. In March, price spreads widened as prices declined at all three market levels. Although the producer-wholesale spread narrowed by 5% to $1.24/kg, because the wholesale-retail spread increased 5% to $1.11/kg, the total producer-retail spread remained essentially the same at $2.35/kg.

Since the producer price increased at a greater rate than the retail price during the first quarter of 1984, the producer's margin increased from 42.6% to 43.4%. Since the wholesale price dropped somewhat while both the retail and producer price rose, the wholesaler's margin decreased to 29.9%. The retailer's margin increased to 26.7% due to an increase in the retail price and a simultaneous lower wholesale price.

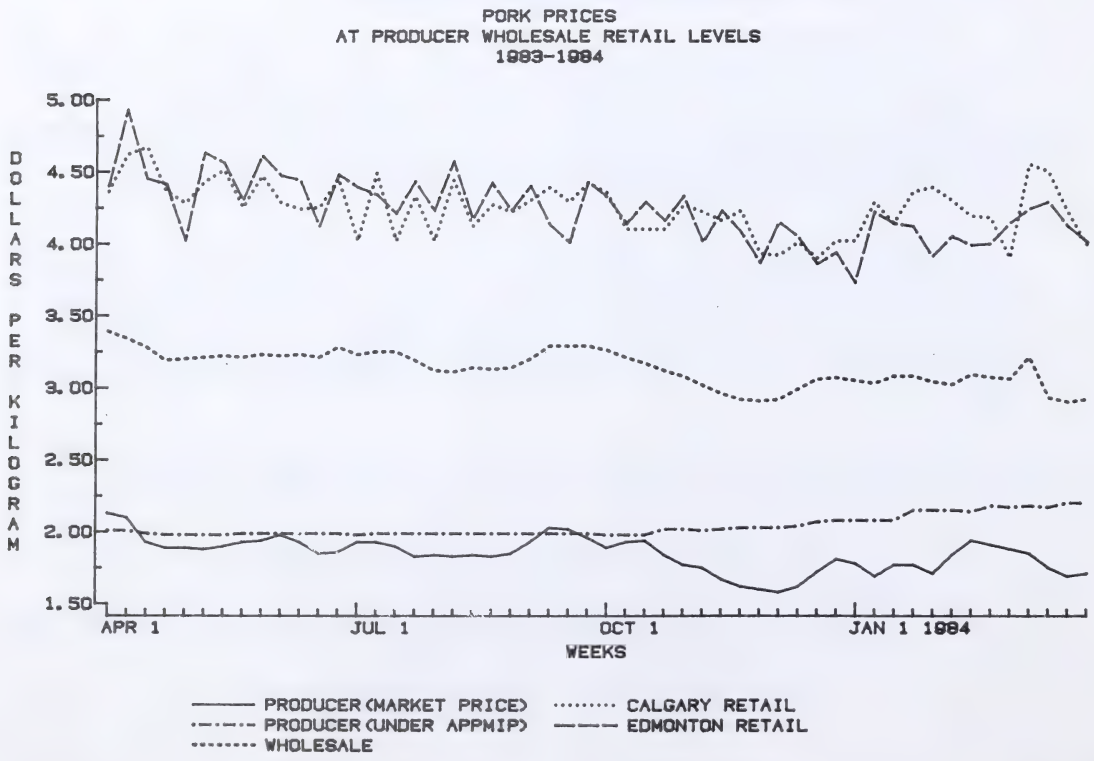
NOTE 1. Updated tables of prices, spreads, and margins are available for these commodities from Statistics Branch.

2. All prices are on a retail equivalent basis. For details see previous issues or contact the branch.

Pork Producer Price - Comment:

Two producer prices on the graph may be slightly confusing. The price paid for slaughter hogs by packers to producers is the market price (solid line). This is the price used in calculating the percentage of the consumer's pork dollar that returns to the producer. Of the $4.15/kg of pork paid by the consumer last quarter, $1.80 returned to the producer. To allow that information to stand alone would be misleading because the significant number of producers covered by the Alberta Pork Producers Market Insurance Plan actually receive the market insurance price (dot dash line) when it is above the market price. By comparison with the $1.80/kg received by pork producers from consumers, about 70% of producers received $2.15. The differential between this price and the $1.80/kg received due to consumer purchases is paid by the Alberta Pork Producers Marketing Board and is comprised of past producers premiums and government contributions. Depending on the reader's requirements, it is possible to use either the price actually received by producers in comparison with the price paid by consumers, or the price paid to producers out of consumer pork purchases.

GRAPH 2



Bread

Average retail prices increased 2.5¢ for store label bread in the 1st quarter of 1984, but remained unchanged for private label bread. Store label bread sold at $0.85/loaf in Calgary and at $0.90/loaf in Edmonton; private label sold at $1.02/loaf and $1.00/loaf comparably. The average wholesale price increased less than one cent to an average of $0.90/loaf for the 1st quarter of 1984.

The total price paid to processors for bread ingredients increased very slightly. From the sale of a loaf of bread this past quarter, processors still received 0.5¢ for the sugar and 1.3¢ for the shortening contained in the bread. For the required flour, millers received 15.7¢, an increase of about 0.4¢/loaf. Processors of skim milk powder received 3¢/loaf for that ingredient. The total price for flour, sugar, shortening, and skim milk powder required to bake one loaf of bread was 20.5¢. This was 1.5% above the previous quarterly price.

The total price received by producers remained essentially unchanged at 12¢/loaf. From the sale of a loaf of bread, the wheat producer received 8.4¢. This was down slightly from the previous quarter due to the January increases in freight rates. About 2.5¢ returned to the dairy farmer for industrial milk used to produce the skim milk powder in bread. The canola producer received 0.9¢ for canola used to produce shortening required for a loaf of bread. The sugar beet grower received 0.3¢ per loaf sold for the beets required in sugar production.

The total price spread between the producer and retailer remained at 89¢/loaf for private label bread but increased 2¢ to almost 76¢/loaf for the store label bread. Similarly, while the processor-retail spread dropped only slightly for private label bread, it increased 2¢ for store label bread. For private label bread, the bakery-retail spread decreased while the processor-bakery spread increased; both changed by less than one cent. The producer-processor spread is the same for private and store label bread and it increased nominally to 8.4¢/loaf.

Margins changed little from the previous quarter. Of the consumer's dollar spent to purchase private label bread, the producer received 12%, the processor received 8.3%, the wholesale bakery received 69.2%, and the retailer received 10.5%. By comparison with the previous quarter, the retail margin decreased by 0.7% while the producer, processor, and wholesale baker margins increased by 0.1%, 0.2%, and 0.4% respectively. In the production of store label bread, there exist three main marketers as the retailer also performs the baking function. Of the dollar spent by the consumer on store label bread, the producer received 13.8%, the processor received 9.6%, and the retailer received 76.6%. By comparison with the last quarter of 1983, the retail margin increased by 0.2%, the processor margin increased by 0.1%, and the producer margin decreased by 0.3%.

June, 1984.

MARKET MARGINS

In Market Margins, the Statistics Branch of Alberta Agriculture presents information on the distribution of the consumer's food dollar. Prices for various agricultural commodities are collected at three levels in the marketing chain; producer, wholesale and retail. Due to processing activity, the food item purchased by the consumer is in a form different from the product leaving the farm gate. As a result of processing and other marketing functions (transportation, packaging, advertising, etc.) performed at the wholesale and retail level, the price of the product at each market level will be different. In order to compare producer, wholesale and retail prices, the value of by-products in processing is deducted and the quantity of farm products required to produce the end consumer product calculated. For example, the value of by-products such as hides and fat used in the manufacture of other end by-products is deducted; in the baking of bread the proportions of farm products required to produce a loaf of bread must be determined. By making these adjustments producer, wholesale and retail prices can be compared on a 'retail equivalent basis'. The difference in retail equivalent prices at each level, known as a price spread, is tabulated to observe changes in producer's, wholesaler's and retailer's share of the consumer's food dollar.

Previous issues of Market Margins have focused on one particular commodity; milk, beef, pork or bread. In this and future issues the results of the information collected will be summarized for the four above-mentioned commodities. The reader is referred to the previous issues for more detailed reference concerning the methodology.

Cautionary Note

Changes in spreads do not necessarily indicate an increase or decrease in the profitability at the various market levels. Costs are not included thus profitability cannot be established. Also Market Margins looks at specific products and adjusts commodities sold at each level to a retail equivalent basis. In doing so, by-products are created which have value and contribute to value of production at each market level.

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BREAD

The methodology used in calculating bread price spreads was designed to determine price spreads for a 20 oz. loaf of sliced white bread. Due to the disparity in retail prices between private and store brand white breads, prices and price spreads were calculated for each separately. The baking of store brand breads are either done by the retail store or a subsidiary of the retail firm and not by private bakeries as are private label breads. Three market levels are recognized in determining price spreads for store brand breads, the producer, the processor and the retail outlet. These three market levels in addition to private bakeries are included in price spread estimation of private label breads.

Prices

At the producer level the producer value for bread flour, rapeseed for shortening, sugar beets for sugar and industrial milk for skim milk powder are estimated to determine the producer price of agricultural products used in baking bread (Table 1). In 1984, producer prices for #1 CWRS wheat averaged $8.43/100 loaves, down 1.2 per cent from $8.53 in 1983. Higher freight rates effective January, 1984 and anticipated lower realized payments for 1984/85 crop deliveries attributed to the decline. Returns to producers for industrial milk increased $0.12/100 loaves (+4.9%) while world sugar prices continued to depress sugar returns, $0.28/100 loaves, over the year. Due to tight 1983/84 world oilseed and oil supplies, Alberta canola prices rose. Between January and July 1984 canola prices rose 42 per cent raising returns to producers. For 1984 producer returns for canola increased 35.6 per cent from $0.73/100 loaves in 1983 to $0.99/100 loaves. (Cautionary note: In the second quarter, producer returns for canola were estimated at $1.21/100 loaves based on prices producers received for canola during this period. However, due to tight supplies Alberta canola deliveries between April and July tapered off. As both rapeseed and oil are storable, the oil used to make bread in this period may be produced from rapeseed sold in the first quarter of 1983, consequently overstating actual producer returns). Total returns to producers in 1984 for these products averaged $12.25/100 loaves up 2.3 per cent from $11.98 in 1983.

Returns to processors (Table 1) for flour, skim milk powder, shortening and sugar increased 6.1 per cent in 1984 to $20.81/100 loaves. Millers[1] received $15.75/100 loaves, an increase of $0.83 (5.6%) for flour, dairies $3.08 for skim milk powder up 5.1% from 1983 and processors of shortening $1.52, an increase of 22.6% from $1.24. Only sugar refiner's price for sugar declined, dropping from $0.52/100 loaves to $0.47 (-9.6%).

Retail prices for store label bread gradually moved upward January through July 1984 peaking at $90.25/100 loaves (Graph 1). Prices dropped in the fourth quarter averaging near year ago levels at $85.23/100 loaves. For the year, store label brands averaged $87.29/100 loaves $3.74 (4.5%) higher than in 1983 (Table 2).

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[1] (Prices for wheat to millers are regulated by the Canadian Wheat Board under the Federal government's domestic wheat pricing policy.)

Private label bread prices followed a pattern similar to store brand prices. Prices rose through the year reaching a high of $107.98/100 loaves in August and dropped in the fourth quarter to $103.60/100 loaves. Private label retail prices averaged $103.85/100 loaves in 1984, an increase of $6.48 (6.7%) from 1983.

TABLE 1

PRICE TO PRODUCERS FOR INGREDIENTS, 1984[1]
(Dollars per 100 loaves)

	#1 CWRS Wheat	Industrial Milk	Canola	Sugar Beets	Total
1st Quarter 1984	8.54	2.50	0.92	0.30	12.26
2nd Quarter 1984	8.54	2.53	1.21	0.29	12.58
3rd Quarter 1984	8.36	2.58	0.96	0.28	12.18
4th Quarter 1984	8.28	2.60	0.87	0.26	12.00
Year 1984	8.43[e]	2.55	0.99	0.28	12.25
Year 1983	8.53[r]	2.43	0.73	0.29	11.98

PRICE TO PROCESSORS FOR INGREDIENTS, 1984
(Dollars per loaf)

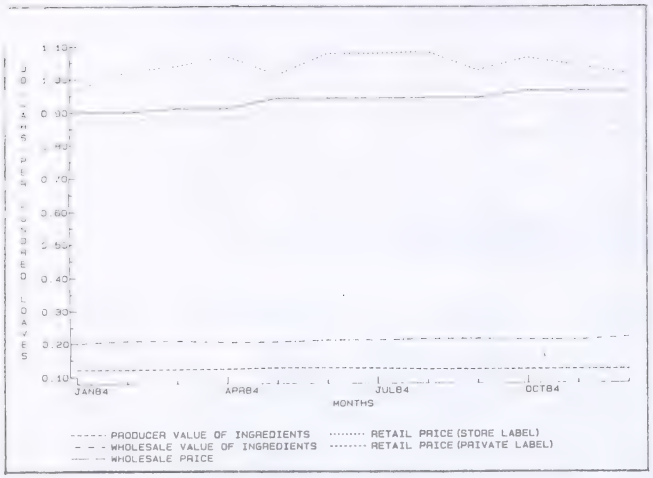
	Flour	Skim Milk Powder	Shortening	Sugar	Total
1st Quarter 1984	15.68	3.01	1.33	0.50	20.50
2nd Quarter 1984	15.52	3.06	1.47	0.48	20.53
3rd Quarter 1984	15.87	3.10	1.67	0.45	21.09
4th Quarter 1984	15.94	3.12	1.60	0.46	21.12
Year 1984	15.75	3.08	1.52	0.47	20.81
Year 1983	14.92	2.93	1.24	0.52	19.61

[e] = estimated final payment included.
[r] = revised from latest figures.

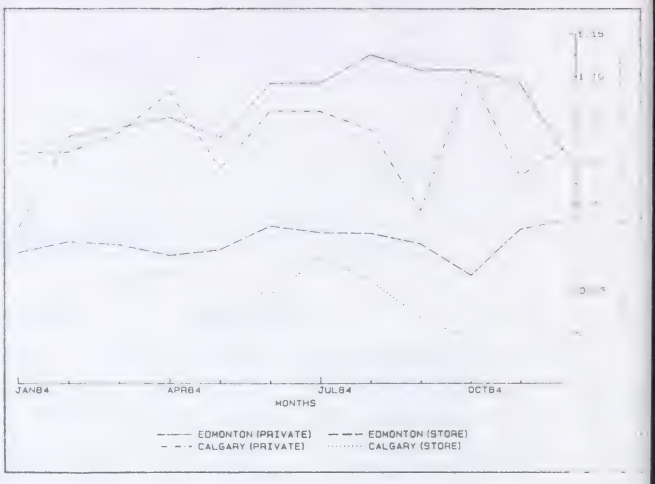
[1] Retail equivalent prices at producer and processor levels.
Totals may not add due to rounding.

Calgary and Edmonton prices for both private and store label brands varied significantly in 1984 (Graph 2). Edmonton store label brands were consistently higher priced throughout the year. Calgary store label breads averaged $84.20/100 loaves as compared to $90.64 in Edmonton. Edmonton private label bread prices were also generally higher than in Calgary. Calgary prices averaged $102.84/100 loaves; Edmonton averaged $105.76.

GRAPH 1 Producer Wholesale Retail Prices



GRAPH 2 Retail Prices Edmonton and Calgary



Spreads and Share

The producer-retail spread for private label bread increased $6.21/100 loaves (7.3%) to $91.60 in 1984 (Table 2). For store label breads the producer-retail spread increased $3.47 (4.8%) to $75.04. Producer processed spreads increased $0.93 (12.1%); processor-retail spreads increased $5.28 (6.8%) and $2.54 (4.0%) for private and store label brands, respectively. The larger increase in private label retail prices contributed to the greater increase in producer-retail spreads.

The distribution of the consumer's bread dollar in 1984 is shown in Table 2. The producer's share[1] declined 0.5 per cent to 11.8 per cent for private label breads and 0.3 per cent to 14.0 per cent for store label breads. The increase in producer prices, 2.3% was not proportionate to the increase in store (4.5%) and private (6.7%) level prices consequently the producer's share dropped.

The processor's share increased to 8.2 per cent from 7.8 per cent for private label breads and increased from 9.1 to 9.8 per cent for store label breads. Processor prices increased more than producer prices thus widening the producer-processor spread. The 12.1 per cent increase in producer-processor spread exceeded the increase in retail prices for both private and store label raising the processor's share.

Despite increases in the retail prices, retailer's share dropped 0.4 per cent to 10.5 per cent for private label breads and 0.3 per cent to

[1] (It is important to note that although producer and processor share are larger for store label bread than private label, the monies received are the same. As private and store label prices differ, the producer's and processor's per cent share must vary accordingly.)

76.2 per cent for store label breads. Processors absorbed the increase in share of store label retail prices. For private label breads both processors and wholesale/bakers increased their share of the retail price. The wholesale share of the retail price increased 0.4 per cent to 69.8 as the increase in processor-baker spread increased more than private label retail prices. Although both the processor and baker increased their share of the retail price by 0.4 per cent, the increase in share to processors was 5.1 per cent as compared to 0.6 per cent for wholesalers.

TABLE 2

QUARTERLY BREAD PRICES, SPREADS AND SHARE, 1984[1]
(Dollars per 100 loaves)

	Producer Price	Processor Price	Wholesale/ Baker Price	Retail Prices	
				Private Label	Store Label
1st Quarter 1984	12.26	20.50	90.33	100.85	87.57
2nd Quarter 1984	12.58	20.53	93.00	105.08	88.05
3rd Quarter 1984	12.18	21.09	94.00	105.89	88.32
4th Quarter 1984	12.00	21.12	96.00	103.60	85.23
1984	12.25	20.81	93.33	103.85	87.29
1983	11.98	19.61	87.16	97.37	83.55

Private Label	Producer-Processor Spread	Processor-Bakery Spread	Bakery-Retail Spread	Processor-Retail Spread	Producer Retail Spread
1st Quarter 1984	8.24	69.83	10.52	80.35	88.59
2nd Quarter 1984	7.95	72.47	12.08	84.55	92.50
3rd Quarter 1984	8.91	72.91	11.89	84.80	93.71
4th Quarter 1984	9.12	74.88	7.60	82.48	91.60
1984	8.56	72.52	10.52	83.04	91.60
1983	7.63	67.55	10.21	77.76	85.39
Store Label					
1st Quarter 1984	8.24	N/A	N/A	67.07	75.31
2nd Quarter 1984	7.95	N/A	N/A	67.52	75.47
3rd Quarter 1984	8.91	N/A	N/A	67.23	76.14
4th Quarter 1984	9.12	N/A	N/A	64.11	73.23
1984	8.56	N/A	N/A	66.48	75.04
1983	7.63	N/A	N/A	63.94	71.57

Private Label	Producer's Share	Processor's Share	Wholesale/Baker's Share	Retailer's Share
1st Quarter 1984	12.2	8.2	69.2	10.4
2nd Quarter 1984	12.0	7.6	69.0	11.5
3rd Quarter 1984	11.5	8.4	68.9	11.2
4th Quarter 1984	11.6	8.8	72.3	7.3
1984	11.8	8.2	69.8	10.1
1983	12.3[r]	7.8	69.4	10.5
Store Label				
1st Quarter 1984	14.0	9.4	N/A	76.6
2nd Quarter 1984	14.3	9.0	N/A	76.7
3rd Quarter 1984	13.8	10.1	N/A	76.1
4th Quarter 1984	14.1	10.7	N/A	75.2
1984	14.0	9.8	N/A	76.2
1983	14.3[r]	9.1	N/A	76.5

N/A - Not Applicable

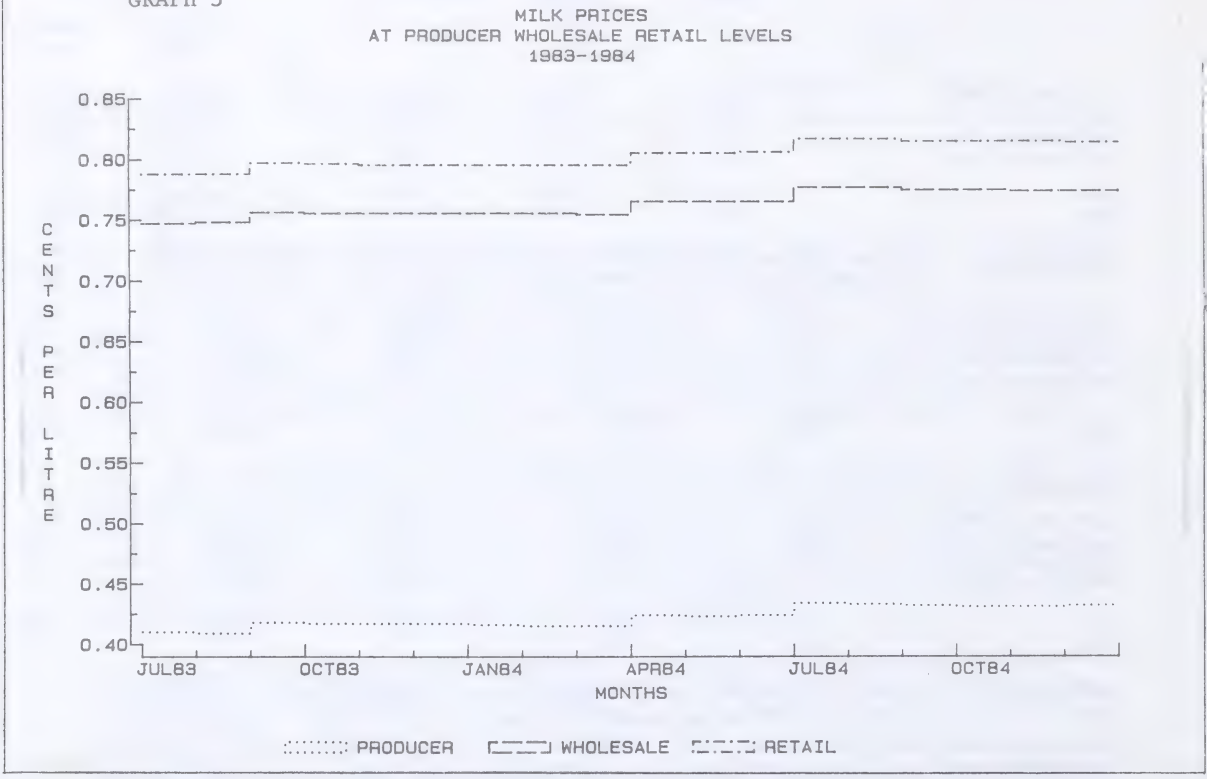
1. Totals may not add due to rounding.

MILK

Prices

Plotted in Graph 3 are milk prices at producer, wholesale and retail levels. The prices on the graph directly correspond to minimum prices set by the Public Utilities Board (PUB) but have been adjusted to a retail equivalent basis. Prices increased at all three levels April 1 and July 1, 1984. Producer, wholesale and retail prices increased 0.9¢, 0.9¢ and 1.0¢/litre respectively in April, increasing another 1.0¢, 1.2¢ and 1.1¢ in July. For the calendar year, producer prices averaged 42.6¢/litre increasing 1.5¢ (3.6%) from 1983 (Table 3). Wholesale prices averaged 76.8¢/litre increasing 2.0¢/litre (2.7%) and retail prices 80.8¢/litre, 1.9¢/litre (2.4%) higher than in 1983.

GRAPH 3



As minimum prices are regulated by PUB, the magnitude of price fluctuations between PUB price increases are small. At the producer level, to adjust producer prices to a retail equivalent basis the value of butterfat produced surplus to fluid milk requirements is subtracted. Surplus butterfat is directed towards the manufacture of butter and cheese. As the surplus butterfat is essentially a by-product of fluid milk manufacturing, the value of the butterfat used in the manufacture of other dairy products must be deducted from the producer price to

derive a retail equivalent price. The value of surplus butterfat subtracted fluctuates with

1) changes in consumer demand for the type of milk product which affects the quantity of total butterfat consumed in milk products,
2) the amount of butterfat produced per hectolitre of milk on farms and,
3) the butterfat differential (i.e. the price of butterfat) paid or deducted per 0.1 kg butterfat.

TABLE 3

QUARTERLY MILK PRICES[1], SPREADS AND SHARE, 1984[2]

(Dollars per litre)

	Producer Price		Wholesale Price		Retail Price	
	1983	1984	1983	1984	1983	1984
1st Quarter	.405	.415	.742	.755	.782	.795
2nd Quarter	.410	.424	.746	.765	.786	.805
3rd Quarter	.412	.433	.750	.776	.791	.816
4th Quarter	.417	.431	.755	.774	.795	.815
YEAR	.411	.426	.748	.768	.789	.808

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1983	1984	1983	1984	1983	1984
1st Quarter	.337	.340	.040	.040	.377	.380
2nd Quarter	.336	.342	.040	.040	.376	.382
3rd Quarter	.338	.344	.041	.040	.379	.384
4th Quarter	.338	.343	.040	.040	.378	.383
YEAR	.337	.342	.041	.040	.378	.382

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1983	1984	1983	1984	1983	1984
	%	%	%	%	%	%
1st Quarter	51.8	52.2	43.1	42.8	5.1	5.0
2nd Quarter	52.2	52.6	42.7	42.5	5.1	5.0
3rd Quarter	52.1	53.0	42.7	42.2	5.2	4.9
4th Quarter	52.5	52.9	42.5	42.1	5.0	5.0
YEAR	52.1	52.7	42.7	42.3	5.2	5.0

[1] Retail equivalent prices at producer and wholesale levels.
[2] Totals may not add due to rounding.

August through November 1984 the value of surplus butterfat steadily increased resulting in a slight decrease in producer prices. This was primarily due to an increase in the quantity of butterfat produced per hectolitre on the farm.

At the wholesale and retail level prices also dropped slightly in the fourth quarter. Both the mix in the size of container (i.e. 4, 2, 1, 0.5 litre) and the type of product sold (i.e. homogenized, 2%, skim, chocolate, buttermilk, etc.) affect the average retail price. In the fall the 4 and 2 litre containers, which are less expensive per litre, form a larger per cent of total sales than in the summer consequently reducing the weighted average retail price.

Spreads and Share

The producer-wholesale spread increased in 1984, averaging 34.2¢/litre, an increase of 1.5 per cent over 1983 (Table 3). The wholesaler's share as a per cent of retail prices averaged 0.4 per cent lower at 42.3 per cent. The increase in the producer-wholesale spread of 1.5 per cent did not match the 2.4 per cent increase in retail prices resulting in reduced wholesaler's share.

The wholesale-retail spread remained stable throughout 1984 with a 4.0 cent spread in wholesale and retail prices. The change in the 1984 wholesale spread was less than one tenth of a cent lower than in 1983 but due to relatively no change in spreads and an increase in the retail price, retailers' share declined 0.2 per cent to average 5.0 per cent in 1984.

The increase in the retail price for fluid milk resulted in an increase in the producer's share to 52.7 per cent up from 52.1 per cent. Producers' prices increased 3.6 per cent exceeding the retail increase of 2.4 per cent consequently raising producers' share.

PORK

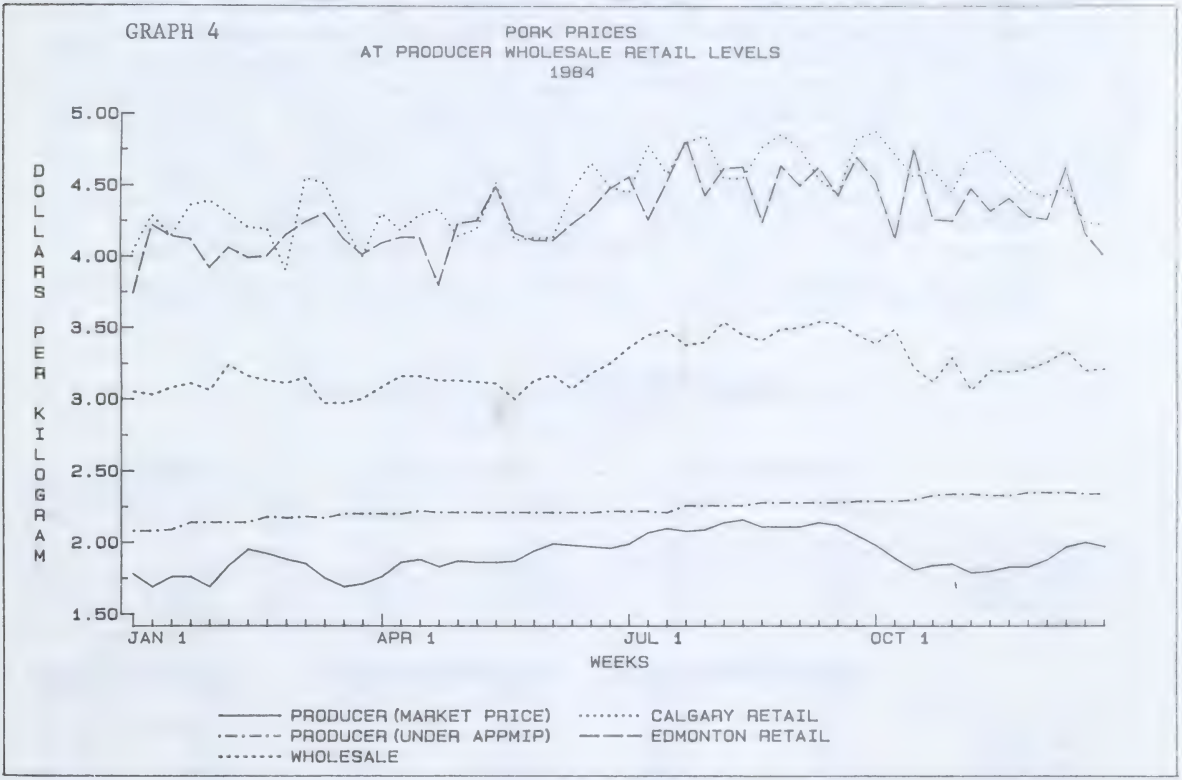
Prices

Producer, wholesale and retail pork prices on a retail equivalent basis are plotted in Graph 4. Prices at all three market levels followed the same trend, rising in the first three quarters, then falling back in the fourth quarter of 1984. Although first quarter prices rose from the end of 1983, prices were down relative to the same period a year ago as an increase in North American hog supplies dampened price increases. Despite expansion in Canadian hog output, prices continued to trend upward in the second and third quarter as U.S. supplies began to moderate. A seasonal increase in demand through the summer months also helped support prices. On the negative side, an increase in beef and poultry supplies limited upward pork price movement. In Alberta, plant closures in Edmonton and Calgary in February and June, respectively, necessitated an increase in exports. Alberta-U.S. price differentials widened as transport costs in exporting reduced producer prices. Prices turned down in September and October on ample pork supplies and seasonally weaker demand. Prices began to climb again in November as American output declined and demand strengthened.

Prices at all market levels averaged lower for 1984. Producer prices declined 1.5 per cent to $1.92/kg. Wholesale prices averaged $3.23/kg, down 1.5 per cent and retail prices declined 0.7 per cent to $4.36/kg. Although following the same trend, pork prices were consistently higher in Calgary, averaging 3.7 per cent higher.

Total payments received by producers under the Alberta Pork Producers Market Insurance Plan (APPMIP) are also indicated in Graph 4. The APPMIP, which covers 75-80 per cent of the hogs produced, upholds producer income to the level of the cost-base indemnity price[1]. Higher barley prices and interest rates contributed to a steady rise in the indemnity price throughout 1984. The APPMIP indemnity price ranged between $0.10/kg to $0.55/kg above the market price (retail equivalent basis) throughout 1984.

GRAPH 4



Price Spreads and Share

The producer-wholesale spread narrowed during the first half of 1984 relative to the same period in 1983 as prices declined more per kilogram at the wholesale level than at the producer level. During the second half, the producer-wholesale spread increased exceeding that in the latter half of 1983 as wholesale prices increased more than producer prices. However, on an average annual basis producer-wholesale spreads declined $0.02/kg to $1.31/kg.

Wholesale-retail spreads rose continuously throughout 1984, averaging lower in the first half of 1984 relative to 1983 and higher in the latter half of 1984. For the year, the wholesale-retail spread widened increasing $0.02/kg to $1.13/kg. The average wholesale price declined $0.05/kg as compared to $0.03/kg in retail prices, resulting in the $0.02/kg change in spread.

[1] The program pays out the difference in the indemnity price and the market price when market prices fall below the indemnity price.

Producer-retail spreads remained unchanged for the year as the decline in producer-wholesale spread was offset by the increase in wholesale-retail spread.

As a percent of the consumer's dollar, the average producer's and wholesaler's share declined in 1984. Producer's share[1] declined 0.4 per cent to 44.0 per cent and wholesaler's dropped 0.3 per cent to 30.0 per cent due to a decline in producer and wholesale prices relative to retail prices. The retailer's share increased 0.6 per cent to 26.0 per cent. However, throughout 1984 the per cent share of the consumer's dollar oscillated between the three participants in the marketing of pork. Following the change in per cent share in Table 4 from the fourth quarter in 1983, the producer's share increased in the first quarter of 1984 while the retailer's share declined. In the second quarter both the producer's and retailer's share increased while the wholesale share decreased. The producer's and wholesaler's share increased in the third quarter whereas the retailer's dropped. For the fourth quarter the producer's share dropped but the wholesale and retail share increased. Generally throughout 1984, a decrease in share by one participant was split by the other two participants increasing their share.

TABLE 4

QUARTERLY PORK PRICES[1], SPREADS AND SHARE, 1984[2]

(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1983	1984	1983	1984	1983	1984	1984 Edm.	1984 Cal.
1st Quarter	2.23	1.80	3.65	3.08	4.74	4.15	4.07	4.23
2nd Quarter	1.94	1.89	3.24	3.13	4.43	4.24	4.19	4.30
3rd Quarter	1.89	2.10	3.18	3.46	4.28	4.60	4.53	4.67
4th Quarter	1.75	1.88	3.03	3.24	4.12	4.44	4.34	4.55
YEAR	1.95	1.92	3.28	3.23	4.39	4.36	4.28	4.44

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1983	1984	1983	1984	1983	1984
1st Quarter	1.43	1.29	1.08	1.07	2.51	2.36
2nd Quarter	1.30	1.24	1.19	1.11	2.49	2.35
3rd Quarter	1.29	1.36	1.10	1.14	2.39	2.50
4th Quarter	1.28	1.36	1.09	1.19	2.37	2.56
YEAR	1.33	1.31	1.11	1.13	2.44	2.44

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1983 %	1984 %	1983 %	1984 %	1983 %	1984 %
1st Quarter	47.0	43.2	30.2	31.1	22.8	25.8
2nd Quarter	43.8	44.6	29.3	29.2	26.9	26.2
3rd Quarter	44.1	45.6	30.1	30.0	25.7	24.8
4th Quarter	42.6	42.4	31.1	30.6	26.5	26.8
YEAR	44.4	44.0	30.3	30.0	25.3	26.0

1 Retail equivalent prices at producer and wholesale levels.
2 Totals may not add due to rounding.

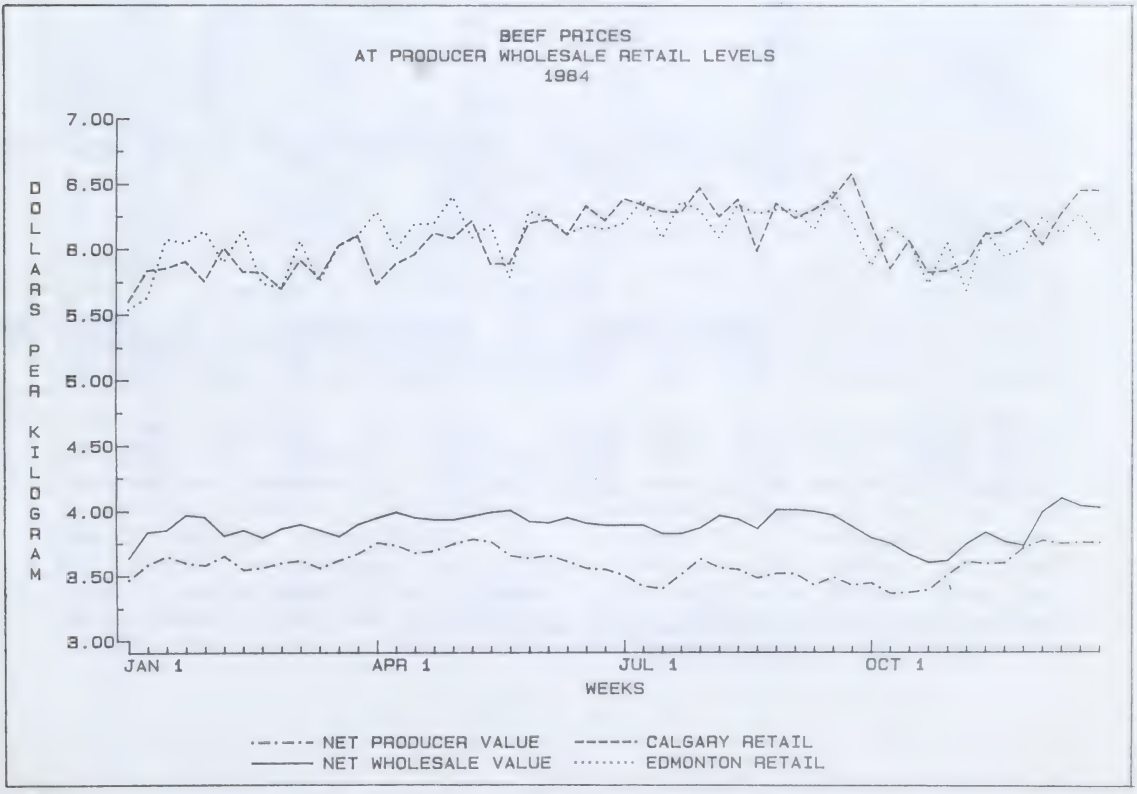
[1] Producer spreads and share are based on the producer market price. The APPMIP indemnity price is not used as 1) the price is not determined in the market place, 2) the program does not cover all hogs sold and 3) the difference in the indemnity price and market price is not paid by the consumer directly but by the producers themselves and provincial government funds used to initiate the program.

BEEF

Prices

Alberta cattle and beef prices increased in the first quarter of 1984 on reduced Alberta cattle supplies and weather-disrupted American supplies (Graph 5). Prices continued their rise in the second quarter at all three market levels but producer prices turned downward May through June as marketings increased. Producer prices gained some seasonal strength in July but continued down in August and September. Packer closures and strikes, plentiful Canadian supplies augmented by sluggish beef movement late in the third quarter as well as an increase in American non-fed slaughter cattle pressured third quarter prices downward. Midyear devaluation in the Canadian dollar relative to the U.S. dollar, however, did lend support to export shipments and producer prices. Cattle prices again trended upward in the fourth quarter. Seasonal increase in demand early in the quarter and increased packer competition for cattle bid up prices.

GRAPH 5



Prices at all three market levels were higher throughout 1984 (Table 5). Producer prices increased in the first half, fell back in the third quarter and regained some price strength in the fourth quarter. For 1984, producer prices on a retail equivalent basis averaged $3.58/kg, 6.2 percent higher than in 1983 at $3.37/kg. Wholesale prices also increased in the first half but dropped in both the third and fourth quarter, averaging $3.88/kg for 1984, up 8.1 percent from 1983. Retail prices followed a similar pattern, increasing in the first half but continued to climb in the third quarter before declining in the fourth quarter. Alberta retail prices for 1984 increased 4.6 percent to $6.09/kg. Retail prices in Edmonton were higher in the first half, but higher in Calgary during the second half. For the year, prices averaged the same in both cities.

TABLE 5

QUARTERLY BEEF PRICES[1], SPREADS AND SHARE, 1984[2]

(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1983	1984	1983	1984	1983	1984	1984 Edm.	1984 Cal.
1st Quarter	3.28	3.59	3.49	3.85	5.62	5.88	5.91	5.86
2nd Quarter	3.63	3.67	3.86	3.94	6.02	6.11	6.16	6.06
3rd Quarter	3.29	3.49	3.52	3.91	5.83	6.29	6.26	6.32
4th Quarter	3.30	3.57	3.51	3.80	5.82	6.06	6.02	6.10
YEAR	3.37	3.58	3.59	3.88	5.82	6.09	6.09	6.08

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1983	1984	1983	1984	1983	1984
1st Quarter	.21	.26	2.13	2.03	2.34	2.29
2nd Quarter	.23	.27	2.16	2.17	2.39	2.44
3rd Quarter	.23	.42	2.31	2.38	2.54	2.80
4th Quarter	.21	.23	2.31	2.26	2.52	2.49
YEAR	.22	.30	2.23	2.21	2.45	2.51

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1983 %	1984 %	1983 %	1984 %	1983 %	1984 %
1st Quarter	58.4	61.1	3.7	4.4	37.9	34.5
2nd Quarter	60.3	60.1	3.8	4.4	35.9	35.5
3rd Quarter	56.5	55.5	3.9	6.7	39.6	37.8
4th Quarter	56.7	58.8	3.6	3.9	39.7	37.3
YEAR	57.9	58.8	3.8	4.9	38.3	36.3

[1] Retail equivalent prices at producer and wholesale levels.
[2] Totals may not add due to rounding.

Price Spreads and Share

Producer-wholesale spreads were consistently higher in 1984 as the increase in wholesale prices exceeded the increase in producer prices on a dollars per kilogram basis (Table 5). Spreads increased through the first three quarters and dropped back in the fourth quarter to average $0.30/kg in 1984. This represented an increase of 36.4 percent over the 1983 average of $0.22/kg.

Wholesale-retail spreads declined in the first quarter of 1984 from the fourth quarter of 1983, increased in the second and third quarter, then declined again in the fourth quarter. The largest increase in wholesale-retail spreads occurred in the third quarter when wholesale prices declined and retail prices increased. The 1984 average wholesale-retail spread estimated at $2.21/kg declined slightly (0.9%) from $2.23/kg as average wholesale prices increased more than retail prices.

The increase in producer-wholesale spreads resulted in producer-retail spreads increasing 2.4 percent from $2.45/kg to $2.51/kg.

The producer's share of the consumer's dollar spent on beef increased in the first quarter, declined in the second and third quarters and rose again in the fourth quarter. For the year, producer's share was higher than in 1983 as the increase in producer prices on a percentage basis was greater than retail prices. Producer's share increased 0.9 per cent in 1984 from 57.9 to 58.8 percent, representing a 1.6 per cent increase in their share. Wholesaler's share was higher throughout 1984, increasing 1.1 percent of 3.8 percent in 1983 to 4.9 percent, an increase of 28.9 percent. Wholesaler's share increased in the first quarter to 4.4 percent of the consumer's dollar, remained steady in the second quarter, increased in the third quarter to 6.7 percent then down to 3.9 percent in the fourth quarter. The increase in the third quarter was due to producer prices falling 4.9 percent in comparison to wholesale prices declining only 0.8 percent, thus widening the producer-wholesale spread.

The retailer's share was consistently lower throughout 1984, averaging 36.3 percent, as compared to 38.3 percent in 1983. The increase and decrease in retailer's share moved in the opposite direction to producer's share. An increase in producer's share in the first and fourth quarter corresponded to a decrease in retailer's share. Conversely, the decrease in producer's share in the second and third quarter corresponded to an increase in the retailer's share. Note that the increase or decrease in share by one of the two participants was not necessarily captured in total by the other participant.

MARKET MARGINS

CANADIANA
APR - 2 1987

In Market Margins, the Statistics Branch of Alberta Agriculture presents information on the distribution of the consumer's food dollar. Prices for various agricultural commodities are collected at three levels in the marketing chain; producer, wholesale and retail. Due to processing activity, the food item purchased by the consumer is in a form different from the product leaving the farm gate. As a result of processing and other marketing functions (transportation, packaging, advertising, etc.) performed at the wholesale and retail level, the price of the product at each market level will be different. In order to compare producer, wholesale and retail prices, the value of by-products in processing is deducted and the quantity of farm products required to produce the end consumer product calculated. For example, the value of by-products such as hides and fats used in the manufacture of other end by-products is deducted; in the baking of bread the proportions of farm products required to produce a loaf of bread must be determined. By making these adjustments, producer, wholesale and retail prices can be compared on a retail equivalent basis. The difference in retail equivalent prices at each level known as a price spread, is tabulated to observe changes in producer's, wholesaler's and retailer's share of the consumer's food dollar.

In this issue of Market Margins, the results of the information collected will be summarized for four main commodities; milk, beef, pork and bread. The reader is referred to previous issues for more details concerning the methodology.

Cautionary Note

Changes in spreads do not necessarily indicate an increase or decrease in the profitability at the various market levels. Costs are not included, thus profitability cannot be established. In addition, Market Margins looks at specific products and adjusts commodities sold at each level to a retail equivalent basis. In doing so, by-products are created which have value and contribute to value of production at each market level.

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October 1986

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BREAD

The methodology used in calculating bread price spreads was designed to determine price spreads for a 20 oz. loaf of sliced white bread. Due to the disparity in retail prices between private and store brand white breads, prices and price spreads were calculated for each separately. The baking of store brand breads is done by the retail store and not by private bakeries as is private label breads. Three market levels are recognized in determining price spreads for store brand; the producer, the processor and the retail outlet. These three market levels, in addition to private bakeries, are included in price spread estimation of private label breads.

Prices

At the producer level, the producer value for bread flour, rapeseed shortening, sugar beets for sugar and industrial milk for skim milk powder are estimated to determine the producer price of agricultural products used in baking bread (Table 1). In 1985, producer prices for #1 CWRS wheat averaged $8.04/100 loaves, down 4.3 per cent from the revised value of $8.40/100 loaves in 1984. The decline is attributed to anticipated lower realized payments for the 1985/86 crop deliveries. Returns to producers for industrial milk increased $0.07/100 loaves (+2.7%) to $2.62/100 loaves from the 1984 value of $2.55/100 loaves, while world sugar prices continued to depress sugar returns, yielding $0.24/100 loaves in 1985, down 14.3 per cent from 1984. Abundant world supplies of oilseeds and edible oils in 1984/85 depressed Alberta canola prices. Domestic canola prices declined by 18 per cent in 1985, lowering returns to producers. Producer returns for canola declined $0.19/100 loaves (-19%) from $0.99/100 loaves in 1984 to $0.80/100 loaves in 1985. Total returns to producers in 1985 for these products averaged $11.71/100 loaves, down 4.2 per cent from $12.22 in 1984.

Returns to processors (Table 1) for flour, skim milk powder, shortening and sugar, increased 5.2 per cent in 1985 to $21.90/100 loaves. Millers[1] received $16.79/100 loaves, an increase of $1.04/100 loaves (+6.6%) for flour, dairies $3.15/100 loaves for skim milk powder, up 2.3 per cent from 1984 and processors of shortening $1.49/100 loaves, a decline of 2 per cent from $1.52/100 loaves. There appears to be no change in the price for sugar refiners between 1984 and 1985.

Retail prices for store label bread increased gradually from February 1985 peaking in June at $94.80/100 loaves (Graph 1). Average prices declined in the third and fourth quarters. For the year, store label brands averaged $90.99/100 loaves, $3.70 (+4.2%) higher than in 1984. (Table 2)

---

[1] (Prices paid by millers for wheat are regulated by the Canadian Wheat Board under the Federal government's domestic wheat pricing policy.)

Private label bread prices at the retail level followed a different pattern than store label bread. Prices declined in the second quarter but increased in the third and fourth quarters, peaking at $131.56/100 loaves in December.

Private label retail prices averaged $112.54/100 loaves in 1985, an increase of $8.69 (+8.4%) from 1984.

TABLE 1

PRICE TO PRODUCERS FOR INGREDIENTS, 1985[1]
(Dollars per 100 loaves)

	#1 CWRS Wheat	Industrial Milk	Canola	Sugar Beets	Total
1st Quarter 1985	8.20	2.60	.84	.25	11.89
2nd Quarter 1985	8.20	2.60	.90	.23	11.93
3rd Quarter 1985	7.94	2.63	.78	.23	11.58
4th Quarter 1985	7.81	2.66	.69	.26	11.42
Year 1985	8.04[e]	2.62	.80	.24	11.71[e]
Year 1984	8.40[r]	2.55	.99	.28	12.22[r]

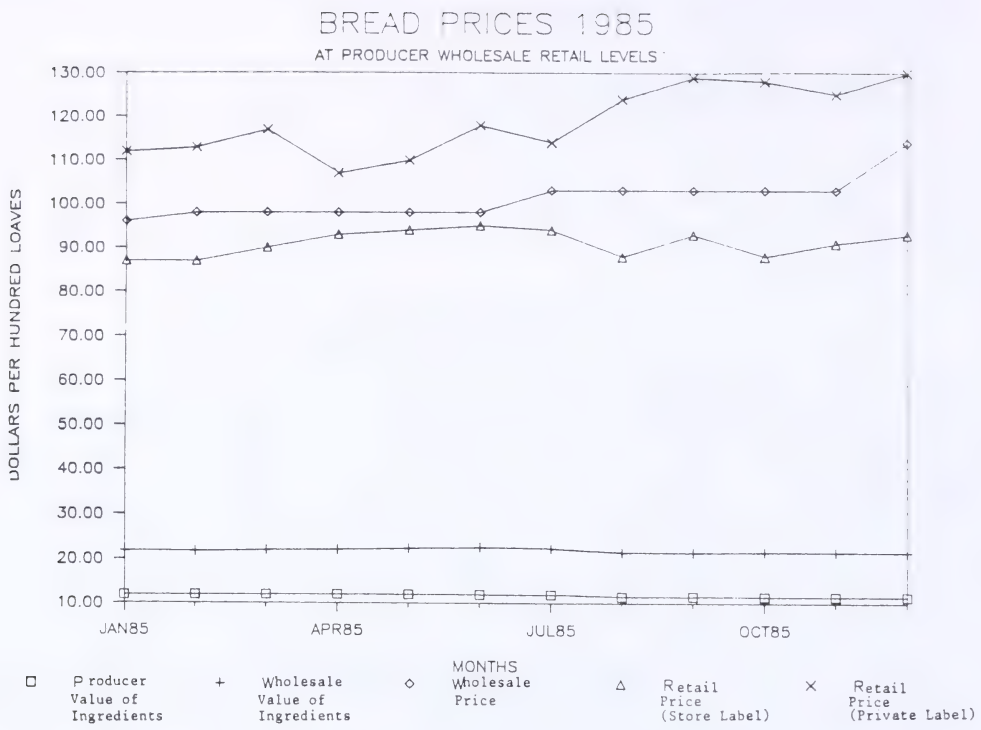
PRICE TO PROCESSORS FOR INGREDIENTS, 1985
(Dollars per loaf)

	Flour	Skim Milk Powder	Shortening	Sugar	Total
1st Quarter 1985	16.76	3.12	1.53	0.46	21.87
2nd Quarter 1985	17.25	3.12	1.59	0.44	22.40
3rd Quarter 1985	16.62	3.17	1.48	0.47	21.74
4th Quarter 1985	16.54	3.20	1.34	0.49	21.57
Year 1985	16.79	3.15	1.49	0.47	21.90
Year 1984	15.75	3.08	1.52	0.47	20.81

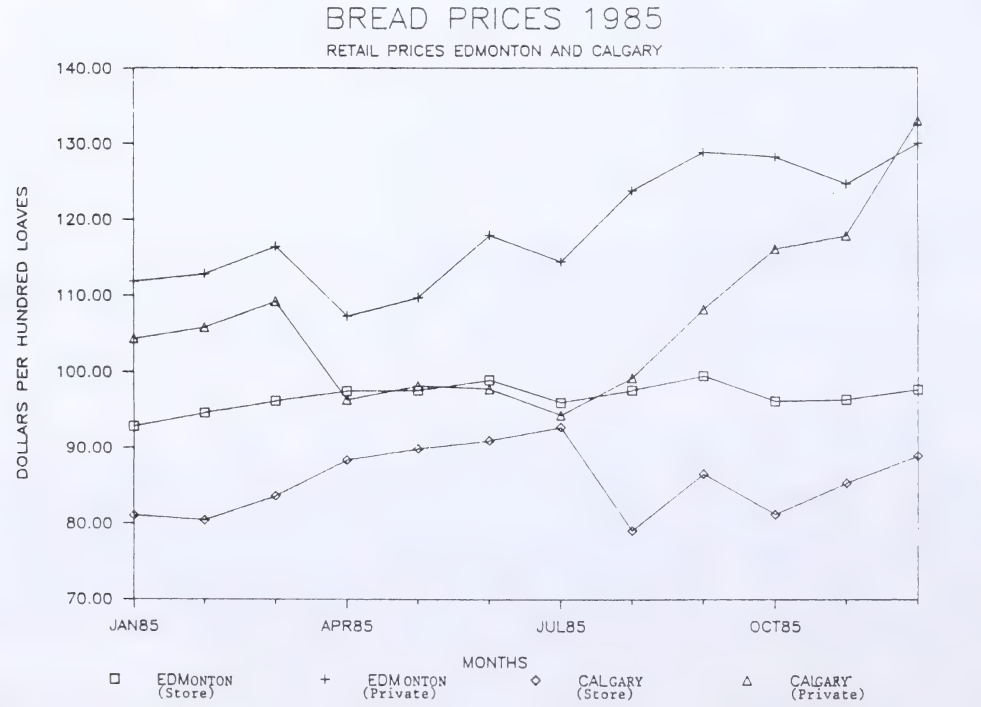
e estimated final payment included
r revised
1 Retail equivalent prices at producer and processor levels.

Calgary and Edmonton prices for store label brands varied significantly in 1985, while private label brands followed similar trends. Edmonton store label breads were consistently higher priced throughout the year. Calgary store label brands averaged $85.69/100 loaves as compared to $96.72/100 loaves in Edmonton. Edmonton private label brands were also higher than in Calgary throughout the year, except in December. Calgary prices averaged $106.70/100 loaves compared to $118.84/100 loaves in Edmonton.

GRAPH 1



GRAPH 2



Spreads and Share

The producer-retail spread for private label bread increased $9.20 (+10%) to $100.83/100 loaves in 1985 while the increase in spread for store label bread was $4.22 (+5.6%). The producer-processor spread increased $1.60 (+18.6%) for both private and store label bread in 1985. Processor-retail spreads increased $7.61/100 loaves and $2.62/100 loaves for private and store labels respectively. The larger increase in producer-retail spreads for private label bread compared to store label bread contributed to the larger increase in producer-retail spreads.

Table 2 indicates the distribution of the consumer's bread dollar in 1985. The producer's share[2] declined 1.3 percentage points to 10.5% for private label bread and 1.1 percentage points to 12.9% for store label bread.

The processor's share increased from 8.2% to 9.1% for private label breads and went up from 9.8% to 11.2% for store label breads. The producer-processor spread widened in 1985 as a result of declining producer prices and an increase in processor prices. The 18.6% increase in producer-processor spread exceeded the increase in retail prices for both private and store label breads, thus raising the processor's share.

Despite increases in the retail price of bread, retailer's share dropped 0.3 percentage points to 9.8% for private label and 0.3 percentage points to 75.9% for store labels. Processors absorbed the increase in share of store label retail prices. For private label breads, both processors and wholesale/bakers increased their share of the retail price. The wholesale share of the retail price for private label increased 0.8 percentage points to 70.6% as the increase in processors-bakery spread was more than the increase in the retail price.

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[2] (It is important to note that although producer and processor shares are larger for store label bread than private label, the monies received are the same. As private and store label prices differ, the producer's and processor's per cent share must vary accordingly.)

TABLE 2

QUARTERLY BREAD PRICES, SPREADS AND SHARE, 1985[1]
(Dollars per 100 loaves)

	Producer Price	Processor Price	Wholesale/ Baker Price	Retail Prices	
				Private Label	Store Label
1st Quarter 1985	11.89	21.87	97.33	109.9	87.89
2nd Quarter 1985	11.93	22.39	98.00	104.27	93.71
3rd Quarter 1985	11.58	21.74	103.00	111.03	91.67
4th Quarter 1985	11.43	21.57	106.67	124.85	90.70
1985	11.71	21.89	101.25	112.54	90.99
1984	12.22[r]	20.81	93.33	103.85	87.29

Private Label	Producer-Processor Spread	Processor-Bakery Spread	Bakery-Retail Spread	Processor-Retail Spread	Producer Retail Spread
1st Quarter 1985	9.99	75.46	12.66	88.12	98.10
2nd Quarter 1985	10.46	75.61	6.27	81.88	92.34
3rd Quarter 1985	10.15	81.26	8.03	89.29	99.45
4th Quarter 1985	10.14	85.10	18.19	103.29	113.42
1985	10.19	79.36	11.29	90.65	100.83
1984	8.59[r]	72.52	10.52	83.04	91.63[r]
Store Label					
1st Quarter 1985	9.99	N/A	N/A	66.02	76.00
2nd Quarter 1985	10.46	N/A	N/A	71.32	81.78
3rd Quarter 1985	10.15	N/A	N/A	69.93	80.09
4th Quarter	10.14	N/A	N/A	69.13	79.27
1985	10.19	N/A	N/A	69.10	79.29
1984	8.59[r]	N/A	N/A	66.48	75.07[r]

Private Label	Producer's Share	Processor's Share	Wholesale/Baker's Share	Retailer's Share
1st Quarter 1985	10.8	9.1	68.6	11.5
2nd Quarter 1985	11.4	10.0	72.5	6.0
3rd Quarter 1985	10.5	9.2	73.2	7.2
4th Quarter 1985	9.2	8.1	68.2	14.6
1985	10.5	9.1	70.6	9.8
1984	11.8[r]	8.2	69.8	10.1
Store Label				
1st Quarter 1985	13.5	11.4	N/A	75.1
2nd Quarter 1985	12.8	11.2	N/A	76.1
3rd Quarter 1985	12.6	11.1	N/A	76.3
4th Quarter 1985	12.6	11.2	N/A	76.2
1985	12.9	11.2	N/A	75.9
1984	14.0[r]	9.8	N/A	76.2

N/A - Not Applicable

[1] Totals may not add due to rounding

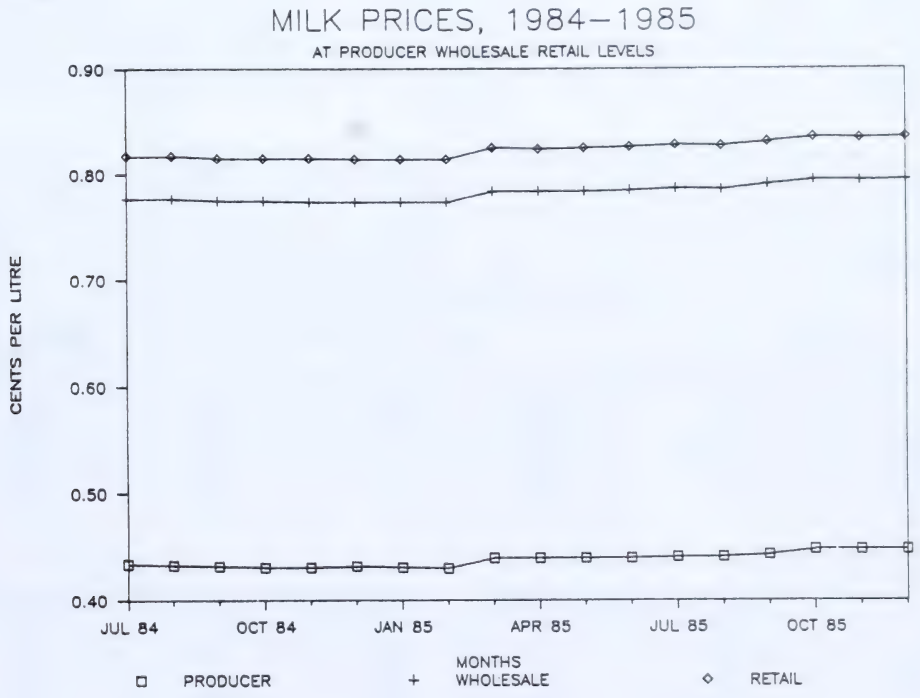
[r] Revised

MILK

Prices

Milk prices at producer, wholesale and retail levels are shown in Graph 3. The prices on the graph correspond directly to minimum prices set by the Public Utilities Board (PUB) but have been adjusted to a retail equivalent basis. Prices increased at all three levels, March 1 and September 1, 1985. Producer, wholesale and retail prices increased 0.98¢, 1.0¢ and 1.0¢/litre respectively in March and a further 0.98¢, 1.0¢ and 1.0¢ respectively in September. For the calendar year 1985, producer prices averaged 44.1¢/litre increasing 1.5¢/litre (+3.5%) from 1984 (Table 3). Wholesale prices average 78.6¢/litre, up 1.8¢/litre (+2.3%) and retail prices average 82.7¢/litre, up 1.9¢/litre (+2.4%) from 1984.

GRAPH 3



As minimum prices are regulated by PUB, the magnitude of price fluctuations between PUB price increases are small. At the producer level, to adjust producer prices to a retail equivalent basis, the value of butterfat produced surplus to fluid milk requirements is subtracted. Surplus butterfat goes towards the manufacture of butter and cheese. As the surplus butterfat is eventually a by-product of fluid milk manufacturing the value of the butterfat used in the manufacture of other dairy products must be deducted from the producer price to derive

a retail equivalent price. The value of surplus butterfat subtracted fluctuates with:

1) changes in consumer demand for the type of milk product which affects the quantity of total butterfat consumed in milk products;

2) the amount of butterfat produced per hectolitre of milk on farms and;

3) the butterfat differential (i.e. the price of butterfat) paid or deducted per 0.1 kg butterfat.

Spreads and Share

Table 3 shows the distribution of the consumer's milk dollar. The producer-wholesale spread increased in 1985, averaging 34.6¢/litre, an increase of 1.2 per cent over 1984. The wholesaler's share as a per cent of retail prices averaged 0.5 percentage points lower at 41.8 per cent. The increase in the producer-wholesale spread of 1.2 per cent did not match the 2.4 per cent increase in retail prices, resulting in reduced wholesaler's share.

The wholesale-retail spread increased 2.5 per cent to 4.1¢/litre and the retailer's share of the consumer's dollar remained unchanged in 1985.

TABLE 3

QUARTERLY MILK PRICES[1], SPREADS AND SHARE, 1985[2]

(Dollars per litre)

	Producer Price		Wholesale Price		Retail Price	
	1984	1985	1984	1985	1984	1985
1st Quarter	.415	.434	.755	.777	.795	.818
2nd Quarter	.424	.440	.765	.784	.805	.825
3rd Quarter	.433	.442	.776	.788	.816	.829
4th Quarter	.431	.448	.774	.795	.815	.835
YEAR	.426	.441	.768	.786	.808	.827

	Producer Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1984	1985	1984	1985	1984	1985
1st Quarter	.340	.344	.040	.040	.380	.384
2nd Quarter	.342	.344	.040	.041	.382	.385
3rd Quarter	.344	.347	.040	.041	.384	.387
4th Quarter	.343	.347	.040	.040	.383	.387
YEAR	.342	.346	.040	.041	.382	.386

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1984	1985	1984	1985	1984	1985
	%	%	%	%	%	%
1st Quarter	52.2	53.0	42.8	4.21	5.0	4.9
2nd Quarter	52.6	53.3	42.5	41.7	5.0	5.0
3rd Quarter	53.0	53.3	42.2	41.9	4.9	4.9
4th Quarter	52.9	53.6	42.1	41.6	5.0	4.8
YEAR	52.7	53.3	42.3	41.8	5.0	5.0

1 Retail equivalent prices at producer and wholesale levels.
2 Totals may not add due to rounding.

PORK

Prices

Producer, wholesale and retail pork prices on a retail equivalent basis are shown in Graph 4. Prices at the producer and wholesale level followed the same trend in 1985, rising in the first quarter then falling in the second and rising in the third and fourth quarters. However, average retail prices (Edmonton and Calgary) increased steadily through the year.

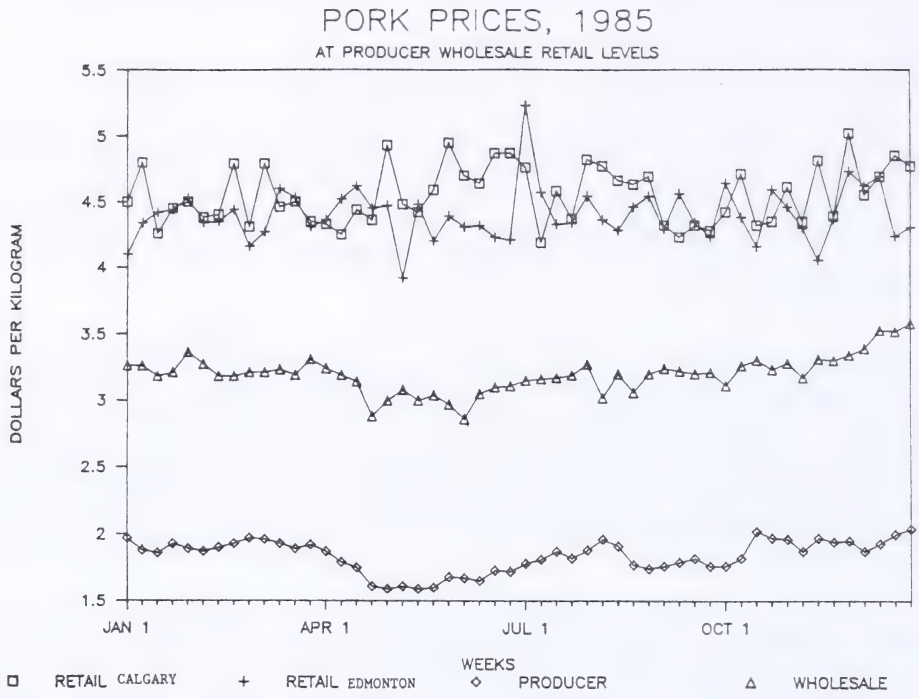
Both second and third quarter prices at the producer and wholesale level were significantly lower than the comparable period in 1984. This prompted the introduction of the Alberta Red Meat Interim Insurance Program as a stop-gap measure until the Tripartite Red Meat Stabilization program was finalized. However, total payments received by hog producers under the Alberta program are not indicated in Graph 4. The Alberta Pork Producers Market Insurance Plan was discontinued at the end of 1984.

Imposition of countervailing duties on live hog exports to the U.S. forced producer prices down in the second and third quarters of 1985. The demand for alternative competing meats such as beef and poultry also adversely affected the demand for pork. Price differentials between U.S. and Alberta markets were much wider in 1985 than in 1984. Through all this however, retail prices of pork were trending upward in 1985 with the spread between retail and producer prices widening. The relative increase in pork prices to the consumer impacted negatively on pork demand and further exacerbated the downward price pressure on producer prices. However, a seasonal reduction in U.S. output in the fourth quarter and narrowing price differentials helped pull up producer prices in late 1985.

Producer and wholesale prices averaged lower than in 1984 while average retail prices were higher. Average producer prices declined 4.2 per cent to $1.84/kg. Wholesale prices averaged $3.20/kg, down 0.9 per cent while average retail prices increased 2.8 per cent to $4.48/kg.

In 1985, retail pork prices in Calgary were consistently higher than in Edmonton.

GRAPH 4



Price Spreads and Shares

The producer-wholesale spread widened in 1985. On an annual average basis, the spread increased $0.05/kg to $1.36/kg. Wholesale-retail spreads also rose during 1985. For the year, the spread rose $0.15/kg to 1.28/kg. Producer-retail spreads increased significantly in 1985 going from $2.44/kg to $2.64/kg.

As a percentage of the consumer's dollar, the average producer share declined from 44 per cent to 41 per cent in 1985. The wholesaler's share increased marginally from 30 per cent to 30.4 per cent while the retailer's share increased from 26 per cent to 28.6 per cent.

Although there were changes in individual producer, wholesale and retail shares between quarters, a decline in share of one participant was unequally split by the other two participants. For example, a decline in producer share from the first quarter to the second quarter of 5.8 percentage points resulted in an increase in wholesaler's and retailer's shares of 0.9 percentage points and 4.8 percentage points respectively.

TABLE 4

QUARTERLY PORK PRICES[1], SPREADS AND SHARE, 1985[2]

(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1984	1985	1984	1985	1984	1985	1985 Edm.	1985 Cal.
1st Quarter	1.80	1.92	3.08	3.23	4.15	4.44	4.37	4.50
2nd Quarter	1.89	1.68	3.13	3.05	4.24	4.47	4.35	4.60
3rd Quarter	2.10	1.82	3.46	3.18	4.60	4.49	4.47	4.51
4th Quarter	1.88	1.93	3.24	3.33	4.44	4.51	4.43	4.60
YEAR	1.92	1.84	3.23	3.20	4.36	4.48	4.40	4.55

	Producer Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1984	1985	1984	1985	1984	1985
1st Quarter	1.29	1.32	1.07	1.20	2.36	2.52
2nd Quarter	1.24	1.37	1.11	1.42	2.35	2.79
3rd Quarter	1.36	1.36	1.14	1.31	2.50	2.67
4th Quarter	1.36	1.40	1.19	1.18	2.56	2.58
YEAR	1.31	1.36	1.13	1.28	2.44	2.64

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1984	1985	1984	1985	1984	1985
1st Quarter	43.2	43.3	31.1	29.7	25.8	27.0
2nd Quarter	44.6	37.5	29.2	30.6	26.2	31.8
3rd Quarter	45.6	40.6	30.0	30.3	24.8	29.2
4th Quarter	42.4	42.7	30.6	31.0	26.8	26.2
YEAR	44.0	41.0	30.0	30.4	26.0	28.6

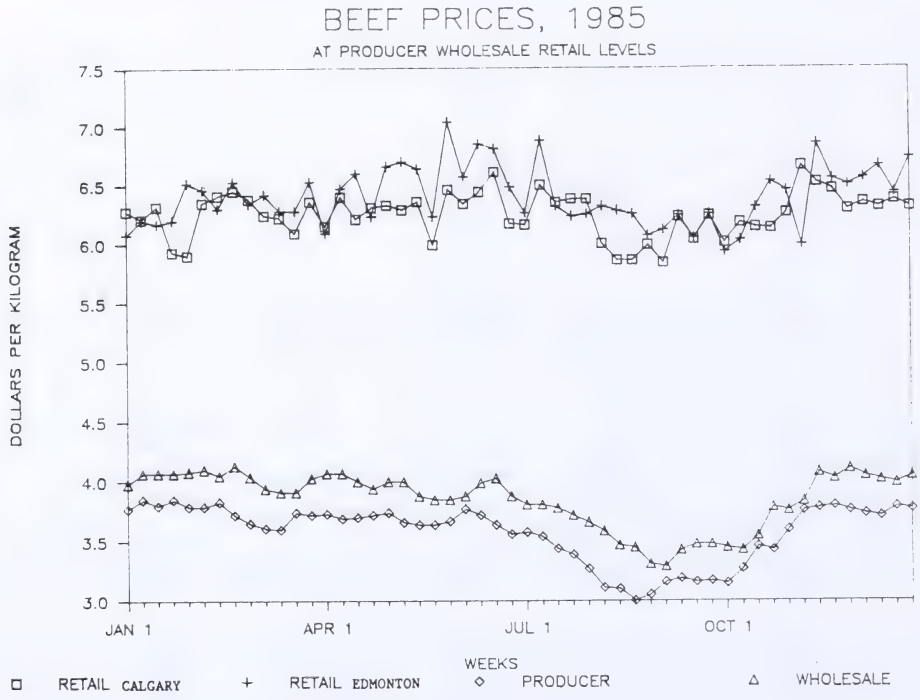
1 Retail equivalent prices at producer and wholesale levels.
2 Totals may not add due to rounding.

BEEF

Prices

Alberta cattle and beef prices increased in the first quarter of 1985 from the last quarter in 1984, primarily due to higher domestic bids caused by a lower U.S./Canada exchange rate. However, prices declined at the producer and wholesale levels as a result of large supplies of beef and other competing meats. Prices recovered to 1984 levels in the fourth quarter of 1985 when Alberta output was significantly reduced. Payments made to producers under the Red Meat Stabilization Program are not represented in Graph 5.

GRAPH 5



Producer and wholesale prices were lower in 1985 than in 1984, while retail prices were significantly higher. Producer prices increased 4.5 per cent in the first quarter compared to the same period in 1984. However, they declined 9.2 per cent in the second and third quarters before recovering in late 1985. Wholesale prices followed a similar trend. Compared to 1984, the annual average producer price was 0.6 per cent lower at $3.56/kg and the wholesale price was 1.0 per cent

lower at $3.84/kg. Retail prices (average of Edmonton and Calgary) increased 3.9 per cent in 1985 ($6.33/kg), showing a significant increase in the first and second quarters before dropping slightly in the third quarter, then recovering in the fourth quarter. Except for brief periods during the year, retail prices in Edmonton were consistently higher than in Calgary.

Price Spreads and Shares

Producer-wholesale spreads were similar to 1984 except in the third quarter when they were 23.8 per cent lower. The producer-wholesale spread averaged $0.28/kg, 6.7 per cent lower than in 1984.

Wholesale-retail spreads increased in the first three quarters of the year before declining in the fourth quarter. The 1985 average wholesale-retail spread was $2.49/kg, 12.7 per cent above the 1984 average.

Producer-retail spreads were consistently higher than in 1984. The annual average producer-retail spread was $2.76/kg, up 10.0 per cent over 1984.

The producer's share of the consumer's dollar spent on beef increased in the first quarter before declining steadily the rest of the year. For the year, the producer's share declined to 56.3 per cent, 2.5 percentage points lower than in 1984.

The wholesaler's share also declined in 1985 over 1984 going from 4.9 per cent to 4.4 per cent.

The retailer's share was consistently higher in the last three quarters of 1985, averaging 39.3 per cent for the year, compared to 36.3 per cent in 1984.

TABLE 5

QUARTERLY BEEF PRICES[1], SPREADS AND SHARE, 1985[2]

(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1984	1985	1984	1985	1984	1985	1985 Edm.	1985 Cal.
1st Quarter	3.59	3.75	3.85	4.03	5.88	6.29	6.33	6.24
2nd Quarter	3.67	3.68	3.94	3.96	6.11	6.44	6.57	6.31
3rd Quarter	3.49	3.24	3.91	3.56	6.29	6.21	6.27	6.14
4th Quarter	3.57	3.58	3.80	3.82	6.06	6.37	6.42	6.31
YEAR	3.58	3.56	3.88	3.84	6.09	6.33	6.40	6.25

	Producer Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1984	1985	1984	1985	1984	1985
1st Quarter	.26	.28	2.03	2.26	2.29	2.54
2nd Quarter	.27	.28	2.17	2.48	2.44	2.76
3rd Quarter	.42	.32	2.38	2.65	2.80	2.97
4th Quarter	.23	.24	2.26	2.55	2.49	2.78
YEAR	.30	.28	2.21	2.49	2.51	2.76

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1984	1985	1984	1985	1984	1985
1st Quarter	61.1	59.6	4.4	4.5	34.5	35.9
2nd Quarter	60.1	57.2	4.4	4.3	35.5	38.5
3rd Quarter	55.5	52.2	6.7	5.2	37.8	42.7
4th Quarter	58.8	56.3	3.9	3.8	37.3	40.0
YEAR	58.8	56.3	4.9	4.4	36.3	39.3

1 Retail equivalent prices at producer and wholesale levels.
2 Totals may not add due to rounding.

MAY - 6

MARKET MARGINS

"Where does the consumer's food dollar go?" This is an often asked question. In response, the Statistics Branch of Alberta Agriculture has been releasing occasional publications called "Market Margins", addressing the issue in an attempt to provide answers.

Prices for various agricultural commodities are collected at three levels in the marketing chain; the producer, wholesale, and retail levels. Due to processing activity, the food item purchased by the consumer is in a form different from the product leaving the farm gate. As a result of processing, and other marketing functions such as transportation, packaging and advertising performed at the wholesale and retail level, the price of the product at each market level will be different. In order to compare producer, wholesale and retail prices, the value of by-products in processing is deducted and the quantity of farm products required to produce the end consumer food product is calculated. For example, the value of by-products such as hides and fats used in the manufacture of other end by-products is deducted; in the baking of bread the proportions of farm products required to produce a loaf of bread must be determined. By making these adjustments, producer, wholesale and retail prices can be compared on a retail equivalent basis. The difference in retail equivalent prices at each marketing level for the same product is known as a "price spread". It is expressed in dollars per unit, whereas the term "margin" is used to express this difference as a percentage of the consumer's food dollar. All spreads plus the producer price total the retail price and all margins plus the producer's share equal 100 per cent.

In this issue of Market Margins, the results of the data collected are summarized for four main food items; milk, beef, pork and bread for the calendar year 1986. For more details concerning methodology, the reader is referred to previous issues and requested to contact the authors directly.

BREAD

The methodology used in calculating bread price spreads was designed to determine price spreads for a 20 oz. (567 g) loaf of sliced white bread. Due to the disparity in retail prices between store brand and private brand white breads, prices and price spreads were calculated for each separately. The baking of store brand breads is done by the retail store and not by private bakeries as is private label breads. Three market levels are recognized in determining price spreads for store brand; the producer, the processor and the retail outlet. These three market levels, in addition to private bakeries are included in price spread estimation of private label bread.

Prices

At the producer level, the producer value for bread flour, rapeseed shortening, sugar beets for sugar and industrial milk for skim milk powder are estimated to determine

CAUTIONARY NOTE

Changes in spreads do not necessarily indicate an increase or decrease in profitability at the various market levels. Costs are not included in the analysis, thus profitability cannot be established. In addition, Market Margins looks at specific products and attempts to adjust food items sold at each level to a retail equivalent basis. In doing so, by-products are created which have value and contribute to value of production at each level.

Nithi Govindasamy & Maureen Whitlock
427-4011
April 1987

TABLE 1

PRICE TO PRODUCERS FOR INGREDIENTS, 1986[1]

(Dollars per 100 loaves)

	#1 CWRS Wheat	Industrial Milk	Canola	Sugar Beets	Total
1st Quarter 1986	6.82	2.66	.67	.28	10.43
2nd Quarter 1986	6.82	2.66	.59	.29	10.36
3rd Quarter 1986	5.90	2.69	.49	.26	9.35
4th Quarter 1986	5.44	2.7	1.50	.17	8.82
Year 1986	6.25[e]	2.68	.56	.25	9.74[e]
Year 1985	7.63[r]	2.62	.80	.24	11.29[r]

PRICE TO PROCESSORS FOR INGREDIENTS, 1986

(Dollars per loaf)

	Flour	Skim Milk Powder	Shortening	Sugar	Total
1st Quarter 1986	18.55	3.20	1.32	.52	23.59
2nd Quarter 1986	18.68	3.20	1.30	.54	23.72
3rd Quarter 1986	18.68	3.24	1.24	.49	23.66
4th Quarter 1986	19.00	3.26	1.16	.51	23.93
Year 1986	18.73	3.23	1.26	.52	23.73
Year 1985	16.79	3.15	1.49	.47	21.90

[e] estimated final payment included

[r] revised

[1] Retail equivalent prices at producer and processor levels.

the producer price of agricultural products used in baking bread (Table 1). In 1986, producer prices for wheat averaged $6.25/100 loaves, down 18 per cent from the revised value of $7.63/100 loaves in 1985. Returns from sugar to producers did not show any change from the 1985 level. However, since there was no sugar beet crop in 1985 an estimate had to be made of the value as if there had been a crop. This procedure may have the tendency to underestimate the producer returns for sugar. Similarly, deficiency payments to producers for the 1986 crop are not included in the analysis. This again would have underestimated the producer returns from sugar.

Domestic canola prices declined in 1985/86 and 1986/87, lowering returns to producers. Producer returns for canola declined $0.24/100 loaves from $0.80/100 loaves in 1985 to $0.56/100 loaves in 1986. Total returns to producers in 1986 for all these products averaged $9.74/100 loaves, down 13.7 per cent from $11.29/100 loaves in 1985.

Returns to processors (Table 1) for flour, skim milk powder, shortening and sugar, increased 8.4 per cent in 1986 to $23.73/100 loaves. Millers[1] received $18.73/100 loaves, an increase of $1.94/100 loaves for flour; dairies received $3.23/100 loaves for skim milk powder, up 2.5 per cent from 1985 and processors of shortening received $1.26/100 loaves, a decline of 15.4 per cent from $1.49/100 loaves in 1985.

Retail bread prices for Edmonton and Calgary are shown in Graph 1. Bread prices at the producer, wholesale, retail level are shown in Graph 2. Retail prices for store label bread showed greater variation in 1986 from that in 1985. Retail prices increased in the first quarter, declined in the second, increased in the third and declined again in the fourth quarter. For the year, store label brands averaged $94.08/100 loaves at the retail level, up $3.09 or 3.4 per cent over 1985 (Table 2).

It should be pointed out that a major change occurred in product weight and pricing for private label bread in 1985 and 1986. Although the change was temporary, it altered the pricing structure of a popular brand of private label bread. The private label baker changed loaf size from 567 g to 500 g for several months in 1985 with accompanying lower prices. Although this new loaf size was not priced for this study, the nearest comparable 567 g loaf that was priced, retailed at 10 to 15¢/loaf higher in 1985 than the previously priced 567 g loaf. Subsequently, the 500 g loaf was discontinued in the first quarter of 1986 and the 567 g white loaf re-introduced with a promotional campaign. This campaign appears to have had the effect of lowering product price for this brand for a period of time. In addition prices of competing brands remained stable during this period. Thus, the events that occurred at the retail level could explain the unexpected decline in annual average price for private label bread from 1985 to 1986. However, an examination of retail prices for private label bread from 1983 to 1986 indicates a general increase.

Private label bread prices at the retail level followed a different pattern than store label bread. Prices declined in the first quarter, then increased in the second and third quarters before declining in the fourth. Private label retail prices averaged $110.62/100 loaves in 1986, a decline of $1.92/100 loaves (-1.7 per cent) from 1985.

Calgary and Edmonton prices for both store label and private label brands at the retail level varied significantly in 1986. Edmonton store label brands were consistently higher priced throughout the year. Edmonton store label brands averaged $99.40/100 loaves compared to $89.10/100 loaves in Calgary. Prices for private label brands, both in Edmonton and Calgary fluctuated widely throughout the year with no apparent trend. Edmonton retail prices for private label brands averaged $111.70/100 loaves compared to $109.60/100 loaves in Calgary.

Spreads and Shares

The producer-retail spread for private label bread increased marginally in 1986 to $101.63/100 loaves while the increase in spread for store label bread was $4.64/100 loaves (+5.8 per cent). The producer-processor spread increased $3.39 (+32 per cent) for both private label and store label breads in 1986. Processor-retail spreads

[1] (Prices paid by millers for wheat are regulated by the Canadian Wheat Board under the Federal government's domestic wheat pricing policy.)

TABLE 2

QUARTERLY BREAD PRICES, SPREADS AND SHARE, 1986[1]
(Dollars per 100 loaves)

	Producer Price	Processor Price	Wholesale/ BakerPrice	RetailPrices	
				Private Label	Store Label
1st Quarter 1986	10.43	23.59	90.67	108.46	95.72
2nd Quarter 1986 1	0.36	23.72	94.00	111.35	91.95
3rd Quarter 1986	9.35	23.67	94.00	113.13	94.84
4th Quarter 1986	8.82	23.93	94.00	109.54	93.79
1986	9.74	23.73	93.17	110.62	94.08
1985	11.30[r]	21.89	101.25	112.54	90.99

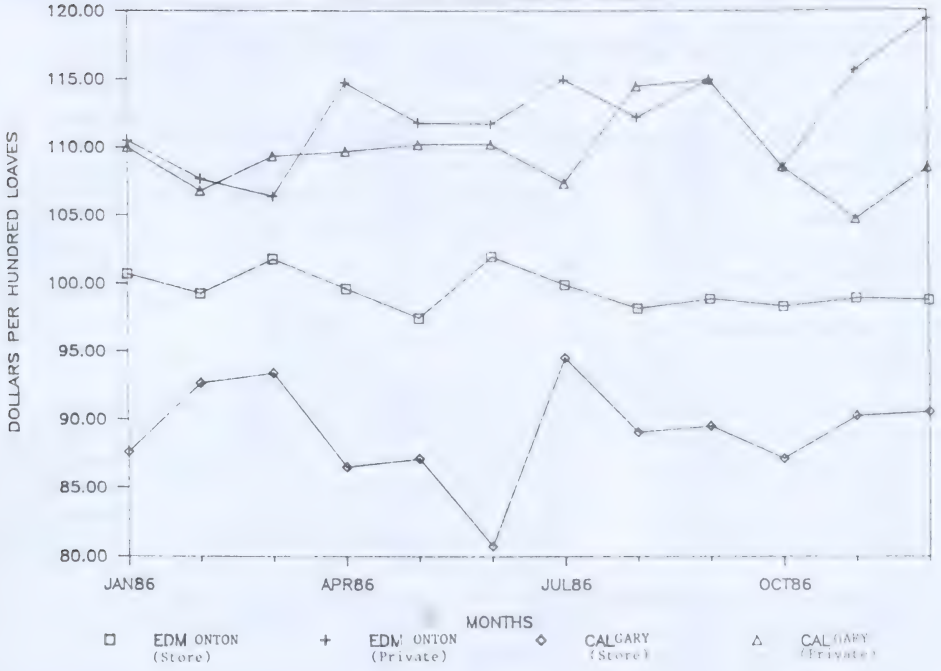
	Producer -Processor Spread	Processor -Bakery Spread	Bakery -Retail Spread	Processor -Retail Spread	Producer - Retail Spread
Private Label					
1st Quarter 1986	13.16	67.07	17.80	84.87	98.03
2nd Quarter 1986	13.36	70.28	17.35	87.63	100.99
3rd Quarter 1986	14.31	70.34	19.13	89.47	103.78
4th Quarter 1986	15.11	70.07	15.54	85.61	103.71
1986	13.99	69.44	17.46	86.90	101.63
1985	10.60[r]	79.36	11.29	90.65	101.24[r]
Store Label					
1st Quarter 1986	13.16	N/A	N/A	72.13	85.29
2nd Quarter 1986	13.36	N/A	N/A	68.23	81.58
3rd Quarter 1986	14.31	N/A	N/A	71.19	85.50
4th Quarter 1986	15.11	N/A	N/A	69.86	84.97
1986	13.99	N/A	N/A	70.35	84.34
1985	10.60[r]	N/A	N/A	69.10	79.70[r]

	Producer's Share	Processor's Share	Wholesale/Baker's Share	Retailer's Share
Private Label				
1st Quarter 1986	9.6	12.1	61.8	16.4
2nd Quarter 1986	9.3	12.0	63.1	15.6
3rd Quarter 1986	8.3	12.7	62.2	16.9
4th Quarter 1986	8.0	13.8	64.0	14.2
1986	8.8	12.6	62.8	15.8
1985	10.1[r]	9.4[r]	70.6	9.8
Store Label				
1st Quarter 1986	10.9	13.7	N/A	75.4
2nd Quarter 1986	11.3	14.5	N/A	74.2
3rd Quarter 1986	9.8	15.1	N/A	75.0
4th Quarter 1986	9.4	16.1	N/A	74.5
1986	10.4	14.9	N/A	74.8
1985	12.4[r]	11.6[r]	N/A	75.9

N/A - Not Applicable
[1] Totals may not add due to rounding
[r] Revised

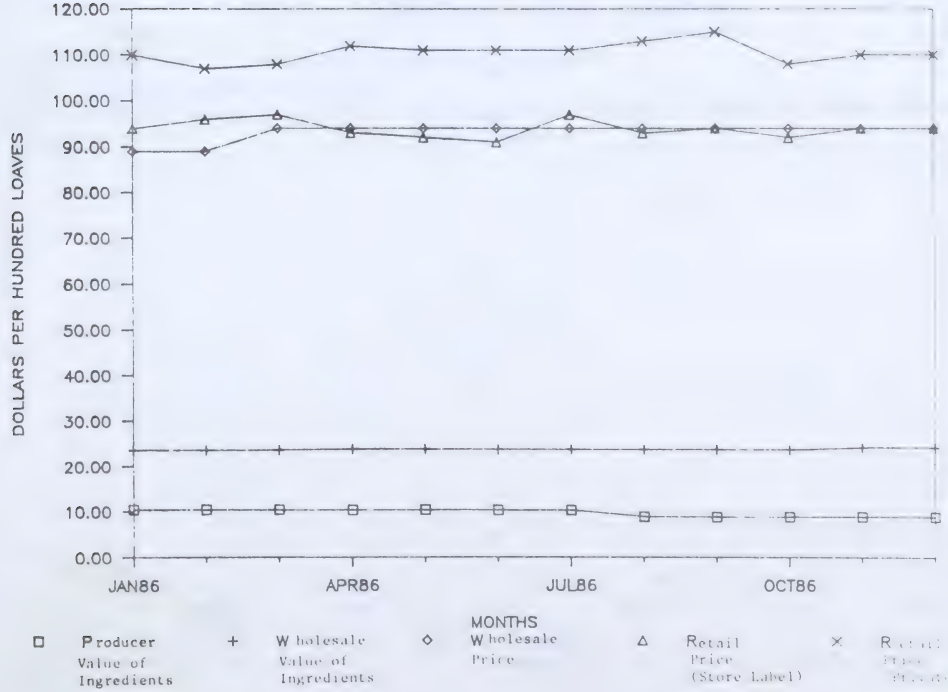
Graph 1 BREAD PRICES 1986

RETAIL PRICES EDMONTON AND CALGARY



Graph 2 BREAD PRICES 1986

AT PRODUCER WHOLESALE RETAIL LEVELS



declined $3.75/100 loaves and increased $1.25/100 loaves for private and store label bread respectively.Table 2 indicates the distribution of the consumer's bread dollar in 1986. The producer's share declined 1.3 percentage points to 8.8 per cent for private label bread and 2.0 percentage points to 10.4 per cent for store label bread. This decline may have been exaggerated due to the assumptions underlying the methodology and therefore should be interpreted with caution.

The processor's share increased from 9.4 per cent to 12.6 per cent for private label bread and went up from 11.6 per cent to 14.9 per cent for store label bread. The producer-processor spread continued to widen in 1986 as a result of declining producer prices and an increase in processor prices. The 32 per cent increase in producer-processor spread exceeded the increase in retail prices for both private and store label breads, thus raising the processor's share.

While the retail price of private label bread declined in 1986, the retailer's share increased from 9.8 per cent in 1985 to 15.8 per cent in 1986. Conversely, while the retail price of store label bread increased in 1986, the retailer's share declined from 75.9 per cent in 1985 to 74.8 per cent in 1986. For private label bread, both processors and retailers increased their share of the retail price while producers and wholesalers saw their shares decline. For store label bread, the processors' share increased while the shares of both producers and retailers declined.

MILK

Prices

Milk prices at producer, wholesale and retail levels are shown in Graph 3. The prices on the graph correspond to minimum prices set by the Public Utilities Board (P.U.B.).

At the producer level, the P.U.B. regulated prices declined to $50.09/hl in April from $51.07/hl. They declined again to $49.11/hl in October and to $48.13/hl in December for a total decline of $2.94/hl for the calendar year 1986.

At the wholesale level the P.U.B. regulated price in January 1986 was $81/hl.

Graph 3 MILK PRICES, 1985–1986

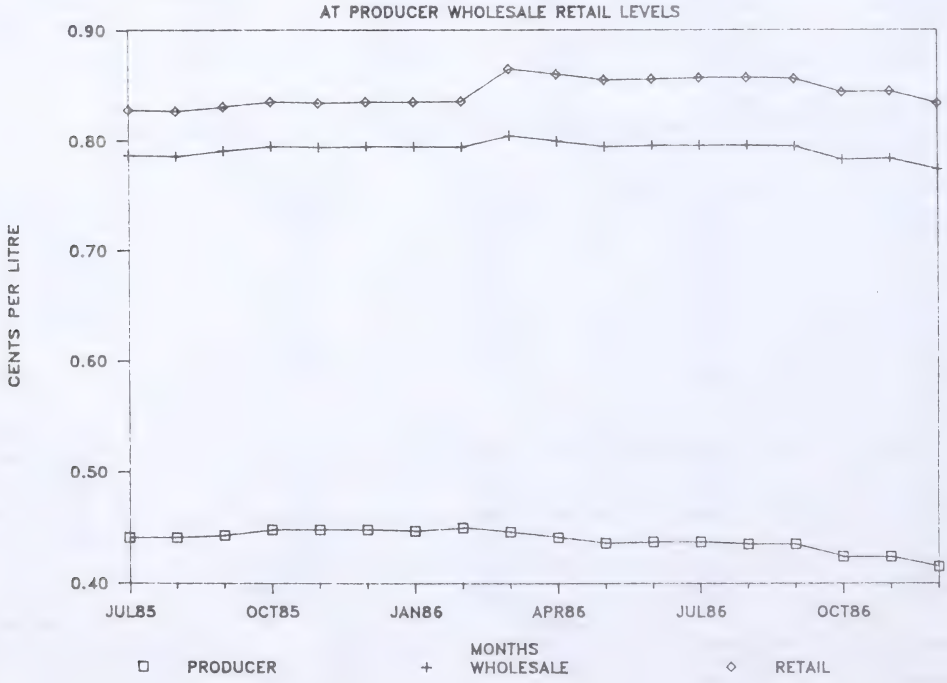


TABLE 3

QUARTERLY MILK PRICES[1], SPREADS AND SHARE, 1986[2]

(Dollars per litre)

	Producer Price*		Wholesale Price		Retail Price	
	1985	1986	1985	1986	1985	1986
1st Quarter	.434	.448	.777	.798	.818	.845
2nd Quarter	.440	.438	.784	.797	.825	.857
3rd Quarter	.442	.436	.788	.796	.829	.857
4th Quarter	.448	.421	.795	.780	.835	.841
YEAR	.441	.436	.786	.793	.827	.850

	Producer -Wholesale Spread		Wholesale -Retail Spread		Producer -Retail Spread	
	1985	1986	1985	1986	1985	1986
1st Quarter	.344	.350	.040	.047	.384	.397
2nd Quarter	.344	.359	.041	.060	.385	.419
3rd Quarter	.347	.360	.041	.060	.387	.420
4th Quarter	.347	.360	.040	.061	.387	.420
YEAR	.346	.357	.041	.057	.386	.414

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1985	1986	1985	1986	1985	1986
	%	%	%	%	%	%
1st Quarter	53.0	53.0	4.21	41.4	4.9	5.6
2nd Quarter	53.3	51.1	41.7	41.9	5.0	7.0
3rd Quarter	53.3	50.9	41.9	42.0	4.9	7.1
4th Quarter	53.6	50.1	41.6	42.7	4.8	7.3
YEAR	53.3	51.3	41.8	42.0	5.0	6.7

[1] Retail equivalent prices at producer and wholesale levels.

[2] Totals may not add due to rounding.

* Prices actually received by producer calculated by weighting and using actual kgs of butterfat produced.

This was increased to $82/hl in March. In April, the price declined to $81/hl. It then declined again in October and December 1986 and is now at $79/hl.

Retail prices started off the year at $85/hl. The price was increased by 3¢/l to $88/hl in March. In April, the price was reduced back to $87/hl and then to $86/hl in October. A final reduction took place in December 1986 and it now stands at $85/hl.

For the calendar year 1986, producer prices averaged $43.6/hl, declining $0.5/hl (-1.13 per cent) from 1985 (Table 3). Wholesale prices averaged $79.3/hl in 1986, up $0.7/hl or 0.9 per cent over 1985. Retail prices averaged $85/hl, up $2.3/hl (+2.78 per cent) over 1985. The P.U.B. regulated minimum price of milk at the producer level declined three times in 1986, reflecting the decline in the feed cost component of the milk pricing formula used by P.U.B.As minimum prices are regulated by PUB, there is little fluctuation in PUB prices. At the producer level, to adjust producer prices to a retail equivalent basis, the value of butterfat produced surplus to fluid milk requirements is subtracted. Surplus butterfat is used to manufacture butter and cheese. As the surplus butterfat is essentially a by-product of fluid milk manufacturing, the value of the butterfat used in the manufacture of other dairy products is deducted from the producer price to derive a retail equivalent price. The value of surplus butterfat subtracted fluctuates with:

1) changes in consumer demand for the type of milk product which affects the quantity of total butterfat consumed in milk products;
2) the amount of butterfat produced per hectolitre of milk on farms and;
3) the butterfat differential (i.e. the price of butterfat) paid or deducted per 0.1 kg butterfat.

As a result, price fluctuations for milk at the producer level can be greater than PUB regulated price fluctuations.

Spreads and Shares

The distribution of the consumer's milk dollar is shown in Table 3. The producer-wholesale spread increased in 1986, averaging 35.7¢/litre, an increase of 1.1¢/litre (+3.2 per cent) over 1985. The wholesaler's share as a per cent of retail prices averaged 0.2 percentage points higher at 42.0 per cent. The increase in the producer-wholesale spread of 3.2 per cent exceeded the 2.8 per cent increase in retail prices, resulting in increased wholesaler's share.

In 1986, the producer's share of the consumer's milk dollar declined to 51.3 per cent, down 2.0 percentage points. The wholesaler's share increased marginally while the retailer's share increased to 6.7 per cent from 5.0 per cent the previous year.

PORK

Prices

Producer, wholesale and retail pork prices on a retail equivalent basis are shown in Graph 4. In 1986, prices at the producer level showed an increase in the first quarter, a slight decline in the second quarter, then a dramatic increase in the third quarter followed by a moderate decline in the fourth. Except for a slight decline in the second quarter, wholesale prices followed the same trend as producer prices. At the retail level, prices in Edmonton and Calgary showed a steady upward trend in 1986.

Several factors contributed to large fluctuations in prices for hogs in 1986. Declining production in the second and third quarters both in the U.S. and Canada boosted prices at the producer level to unprecedented highs. Lower than expected cold storage stocks, inventories, farrowing and farrowing intentions were all strong market signals for price strength. In Alberta, however, production declines in the summer caused by disruptions in slaughterings necessitated larger than normal out-of-province shipments of live hogs. This factor dampened the strong price increase somewhat in July. Prices recovered and peaked in the late stages of the third quarter before declining moderately due to seasonal increases in production late in the year. With low feed prices and high output prices, net margins were at historical highs for hog producers in 1986.

Prices at all three levels of the marketing chain averaged substantially higher than in 1985 (Table 4) . Average producer prices increased 20 per cent to $2.21/kg, while wholesale prices averaged

TABLE 4

QUARTERLY PORK PRICES[1], SPREADS AND SHARE, 1986[2]

(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1985	1986	1985	1986	1985	1986	1986 Edm.	1986 Cal.
1st Quarter	1.92	1.94	3.23	3.36	4.44	4.67	4.62	4.72
2nd Quarter	1.68	1.86	3.05	3.22	4.47	4.68	4.68	4.70
3rd Quarter	1.82	2.62	3.18	3.85	4.49	5.72	5.74	5.71
4th Quarter	1.93	2.43	3.33	4.03	4.51	5.93	6.02	5.84
YEAR	1.84	2.21	3.21	3.62	4.48	5.25	5.27	5.24

	Producer Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1985	1986	1985	1986	1985	1986
1st Quarter	1.32	1.42	1.20	1.31	2.52	2.73
2nd Quarter	1.37	1.36	1.42	1.46	2.79	2.82
3rd Quarter	1.36	1.22	1.31	1.87	2.67	3.10
4th Quarter	1.40	1.60	1.18	1.90	2.58	3.50
YEAR	1.38[r]	1.40	1.26[r]	1.64	2.64[r]	3.04

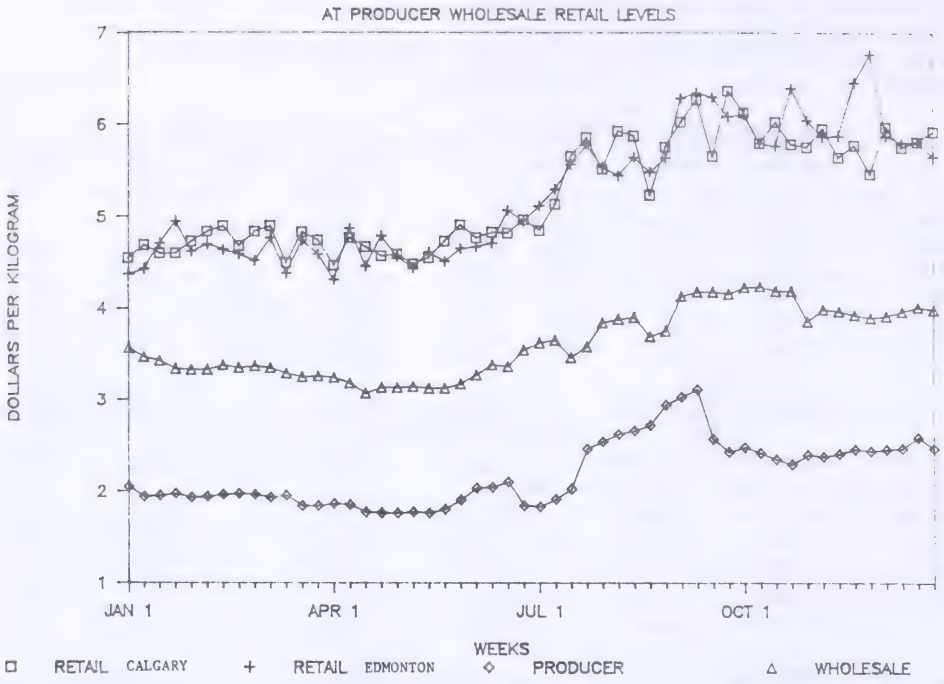
	Producer's Share		Wholesaler's Share		Retailer's Share	
	1985	1986	1985	1986	1985	1986
1st Quarter	43.3	41.5	29.5	30.4	27.3	28.1
2nd Quarter	37.5	39.7	30.6	29.1	31.8	31.2
3rd Quarter	40.6	45.9	30.3	21.5	29.2	32.7
4th Quarter	42.7	41.0	31.0	27.0	26.2	32.0
YEAR	41.0	42.0	30.4	27.0	28.6	31.0

[1] Retail equivalent prices at producer and wholesale levels.

[2] Totals may not add due to rounding.

[r] Revised

Graph 4 PORK PRICES, 1986



$3.62/kg, up 12.8 per cent over 1985. Average retail prices at $5.25/kg, were 17 per cent higher in 1986.

Unlike 1985, retail pork prices in Edmonton were higher than in Calgary in the third and fourth quarters of 1986. This may have resulted from slaughtering disruptions that occurred in Edmonton during the summer. Overall, the retail price in Edmonton and Calgary for the year did not differ markedly.

Spreads and Shares

The producer-wholesale spread widened again in 1986 (Table 4). On an annual average basis, the spread increased marginally to $1.40/kg from $1.38/kg. Wholesale-retail spreads also rose in 1986. For the year, the spread widened to $1.64/kg from $1.26/kg, up 30 per cent. Producer-retail spreads increased 15.2 per cent, from $2.64/kg to $3.04/kg.

The producer's share of the consumer's food dollar increased marginally from 41 per cent in 1985 to 42 per cent in 1986, while the wholesaler's share declined from 30.4 per cent to 27 per cent. The retailer's share increased from 28.6 per cent to 31 per cent in 1986.

BEEF

Prices

Alberta slaughter cattle and beef prices declined in the first quarter of 1986 from the fourth quarter of 1985, due to increased supplies and increased carcass weights during this period (Graph 5) . Except for brief rallies, prices continued their downward trend into the second quarter before rebounding in the third and fourth quarters of 1986. Renewed price strength in the third and fourth quarters was the result of tightening supplies and a narrowing of the basis between Alberta markets and other Eastern Canadian and U.S. markets.

Producer and wholesale prices were lower in 1986 than in 1985 while retail prices increased (Table 5) . Producer prices declined to $3.37/kg in the second quarter before rebounding to $3.49/kg in the third quarter and $3.83/kg in the fourth. For the calendar year, producer prices were not significantly different from 1985. Wholesale prices

TABLE 5

QUARTERLY BEEF PRICES[1], SPREADS AND SHARE, 1986[2]
(Dollars per kilogram)

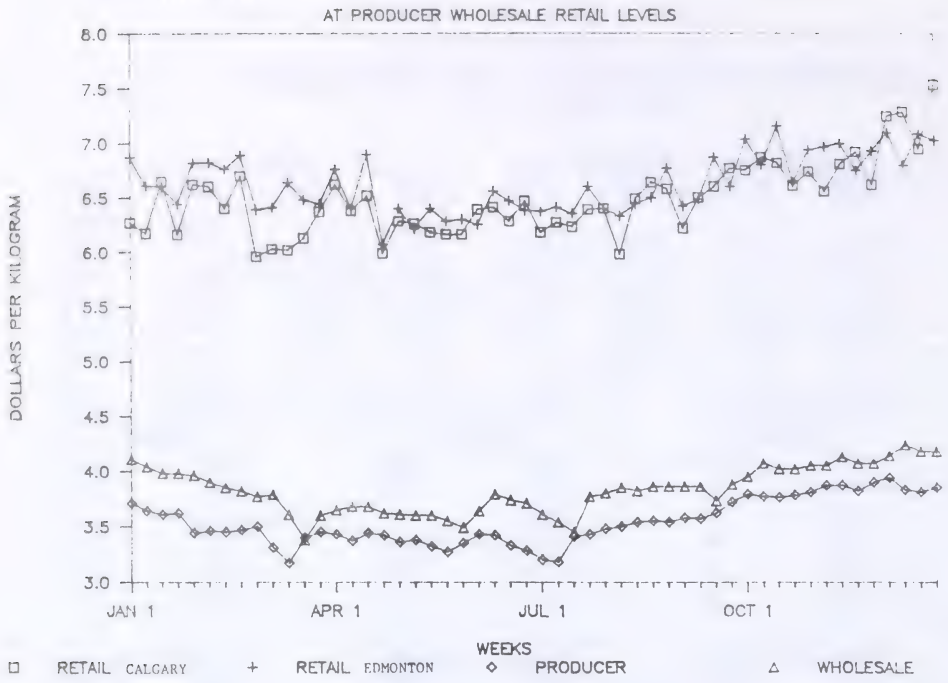
	Producer Price		Wholesale Price		Retail Price			
	1986	1986	1985	1986	1985	1986	1985 Edm.	1986 Cal.
1st Quarter	3.75	3.48	4.03	3.83	6.29	6.47	6.63	6.31
2nd Quarter	3.68	3.37	3.96	3.64	6.44	6.37	6.41	6.32
3rd Quarter	3.24	3.49	3.56	3.76	6.21	6.45	6.50	6.40
4th Quarter	3.58	3.83	3.82	4.09	6.37	6.92	6.94	6.90
YEAR	3.56	3.54	3.84	3.83	6.33	6.55	6.62	6.48

	Producer Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1985	1986	1985	1986	1985	1986
1st Quarter	.28	.34	2.26	2.67	2.54	3.01
2nd Quarter	.28	.28	2.48	2.72	2.76	3.00
3rd Quarter	.32	.28	2.65	2.70	2.97	2.97
4th Quarter	.24	.26	2.55	2.84	2.78	3.10
YEAR	.28	.29	2.49	2.73	2.76	3.02

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1985	1986	1985	1986	1985	1986
1st Quarter	59.6	53.8	4.5	5.4	35.9	40.8
2nd Quarter	57.2	52.9	4.3	4.2	38.5	42.9
3rd Quarter	52.2	54.1	5.2	4.2	42.7	41.7
4th Quarter	56.3	55.3	3.8	3.8	40.0	40.9
YEAR	56.3	54.0	4.4	4.4	39.3	41.5

[1] Retail equivalent prices at producer and wholesale levels.
[2] Totals may not add due to rounding.

Graph 5 BEEF PRICES, 1986



retreated in the second and third quarters but finished the year at $3.83/kg which was again similar to 1985 levels. Retail prices however, finished the year at $6.55/kg, 3.5 per cent higher than in 1985.

Spreads and Shares

Producer-wholesale spreads in 1986 were similar to those in 1985. The producer-wholesale spread averaged $0.29/kg in 1986 compared to $0.28/kg in 1985 as shown in Table 5.

Wholesale-retail spreads increased throughout the year. The 1986 annual average spread was $2.73/kg, up 9.6 per cent over 1985.

Producer-retail spreads were also higher in 1986. The annual- average spread was $3.02/kg, up 9.4 per cent over 1985.

The producer's share of the consumer's beef dollar declined in 1986 to 54 per cent, 2.3 percentage points lower than in 1985. The wholesaler's share remained the same as in 1985 at 4.4 per cent. The retailer's share was consistently higher in 1986 and finished the year at 41.5 per cent, up 2.2 percentage points over 1985.

NOV - 2 1988

Market Margins

"Where does the consumer's food dollar go?" This is a question that is often asked and in response, Statistics Branch of Alberta Agriculture has on occasion released this publication called "Market Margins".

Prices for various agricultural commodities are collected at three levels in the marketing chain; the producer, wholesale, and retail levels. Due to processing activity, the food item purchased by the consumer is in a form different from the product leaving the farm gate. As a result of processing, and other marketing functions such as transportation, packaging and advertising performed at the wholesale and retail level, the price of the product at each market level will be different. In order to compare producer, wholesale and retail prices, the value of by-products in processing is deducted and the quantity of farm products required to produce the end consumer food product is calculated. For example, the value of by-products such as hides and fats used in the manufacture of other end by-products is deducted; in the baking of bread the proportions of farm products required to produce a loaf of bread must be determined. By making these adjustments, producer, wholesale and retail prices can be compared on a retail equivalent basis. The difference in retail equivalent prices at each marketing level for the same product is known as a "price spread". It is expressed in dollars per unit, whereas the term "margin" is used to express this difference as a percentage of the consumer's food dollar. All spreads plus the producer price total the retail price and all margins plus the producer's share equal 100 per cent.

In this issue of Market Margins, the results of the data collected are summarized for four main food items; milk, beef, pork and bread for the calendar year 1987. For more details concerning methodology, the reader is referred to previous issues and requested to contact the author directly.

BREAD

The methodology used in calculating bread price spreads was designed to determine price spreads for a 20 oz. (567 g) loaf of sliced white bread. Due to the disparity in retail prices between store brand and private brand white breads, prices and price spreads were calculated for each separately. The baking of store brand breads is done by the retail store and not by private bakeries as is private label breads. Three market levels are recognized in determining price spreads for store brand; the producer, the processor and the retail outlet. These three market levels, in addition to private bakeries are included in price spread estimation of private label bread.

Prices

At the producer level, the producer value for bread flour, rapeseed shortening,

CAUTIONARY NOTE

Changes in spreads do not necessarily indicate an increase or decrease in profitability at the various market levels. Costs are not included in the analysis, thus profitability cannot be established. In addition, Market Margins looks at specific products and attempts to adjust food items sold at each level to a retail equivalent basis. In doing so, by-products are created which have value and contribute to value of production at each level.

Maureen Whitlock
427-4011

September, 1988

Alberta
AGRICULTURE
Statistics Branch

TABLE 1 PRICE TO PRODUCERS FOR INGREDIENTS, 1987[a]
(Dollars per 100 loaves)

	#1 CWRS Wheat	Industrial Milk	Canola	Sugar Beets	Total
1st Quarter	5.50	2.74	.48	.18	8.90
2nd Quarter	5.50	2.74	.51	.18	8.93
3rd Quarter	4.84	2.77	.52	.17	8.30
4th Quarter	4.51	2.80	.56	.16	8.03
Year 1987	5.09[e]	2.76	.52	.17	8.54[e]
Year 1986	6.27[r]	2.68	.56	.25	9.76[r]

PRICE TO PROCESSORS FOR INGREDIENTS, 1987[a]
(Dollars per 100 loaves)

	Flour	Skim Milk Powder	Shortening	Sugar	Total
1st Quarter	19.00	3.26	1.21	.55	24.02
2nd Quarter	18.92	3.26	1.24	.55	23.97
3rd Quarter	18.92	3.26	1.24	.52	23.94
4th Quarter	19.17	3.26	1.24	.56	24.23
Year 1987	19.00	3.26	1.23	.55	24.04
Year 1986	18.73	3.23	1.26	.52	23.73

[a] Retail equivalent prices at producer and processor levels.
[e] Final payment for 1987/88 crop assumed to be zero.
[r] Revised

sugar beets for sugar and industrial milk for skim milk powder are estimated to determine the producer price of agricultural products used in baking bread (Table 1). In 1987, producer prices for wheat averaged $5.09/100 loaves, down 19 per cent from the revised value of $6.27/100 loaves in 1986.

Returns from sugar to producers averaged $0.17/100 loaves in 1987, down 32 per cent from the 1986 level of $0.25/100 loaves. However, since deficiency payments to producers for the 1986 and 1987 crops are not included in the analysis, this would have underestimated the producer returns from sugar.

Producer returns for canola declined 7 per cent from $0.56/100 loaves in 1986 to $0.52/100 loaves in 1987.

At the same time, returns to producers for industrial milk averaged $2.76/100 loaves, an increase of 3 per cent over the 1986 level of $2.68/100 loaves.

Total returns to producers in 1987 for all these products averaged $8.54/100 loaves, down 12.5 per cent from the revised value of $9.76/100 loaves in 1986.

Returns to processors (Table 1) for flour, skim milk powder, shortening and sugar increased marginally by 1.3 per cent in 1987 to $24.04/100 loaves. Millers[1] received $19.00/100 loaves for flour, an increase of 1.4 per cent and dairies received $3.26/100 loaves for skim milk powder, up 1 per cent from 1986. Processors of sugar received $0.55/100 loaves, up 5.8 per cent while processors of shortening received $1.23/100 loaves, down 2.4 per cent from 1986.

Bread prices at the producer, wholesale, retail levels are shown in Graph 1. Retail bread prices for Edmonton and Calgary for both store and private label bread are shown in Graph 2. Retail prices for store label bread showed a general increase for the first three quarters of 1987, followed by a decline in the fourth quarter. For the year, store label

[1] (Prices paid by millers for wheat are regulated by the Canadian Wheat Board under the Federal government's domestic wheat pricing policy.)

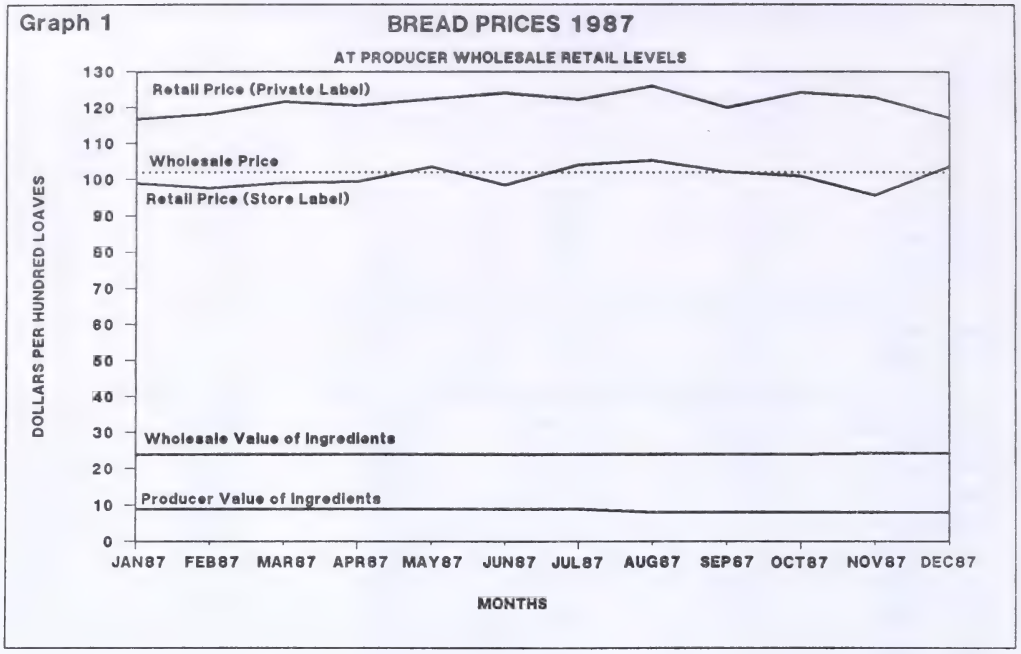
TABLE 2
QUARTERLY BREAD PRICES, SPREADS AND SHARE, 1987[a]
(Dollars per 100 loaves)

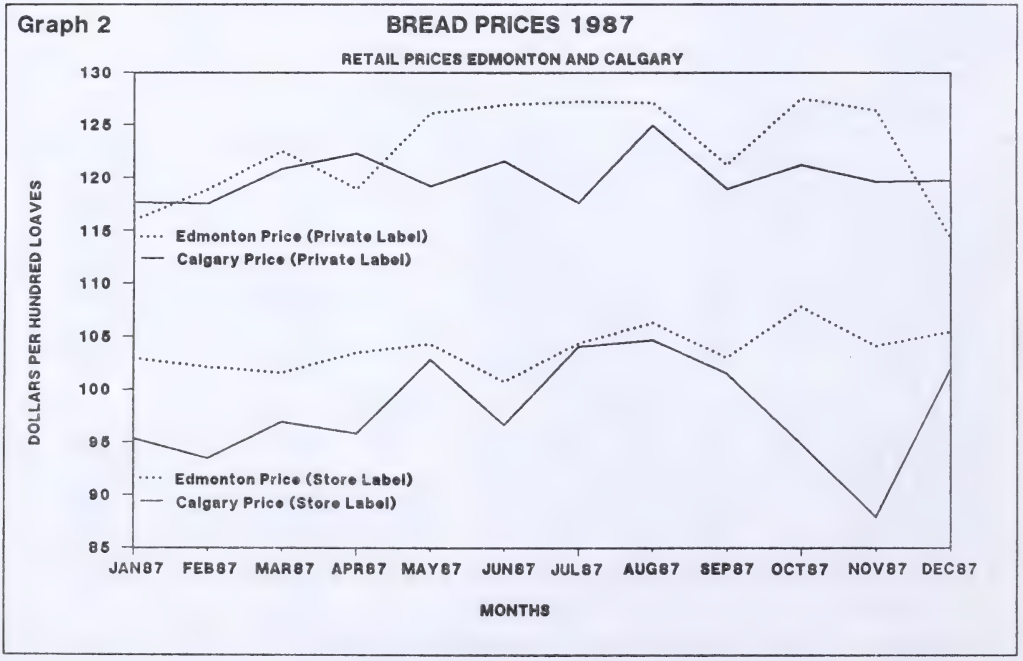
	Producer Price	Processor Price	Wholesale/ Baker Price	Retail Prices	
				Private Label	Store Label
1st Quarter	8.90	24.02	102.00	118.91	98.63
2nd Quarter	8.93	23.97	102.00	122.46	100.59
3rd Quarter	8.30	23.94	102.00	122.76	103.98
4th Quarter	8.03	24.23	102.00	121.42	100.17
Year 1987	8.54[e]	24.04	102.00	121.39	100.84
Year 1986	9.76[r]	23.73	93.17	110.62	94.08

Private Label	Producer-Processor Spread	Processor-Bakery Spread	Bakery-Retail Spread	Processor-Retail Spread	Producer-Retail Spread
1st Quarter	15.12	77.98	16.91	94.89	110.02
2nd Quarter	15.04	78.03	20.46	98.49	113.52
3rd Quarter	15.63	78.06	20.76	98.82	114.46
4th Quarter	16.20	77.77	19.42	97.19	113.39
Year 1987	15.50[e]	77.96	19.39	97.35	112.85[e]
Year 1986	13.94[r]	69.44	17.46	86.90	100.84[r]
Store Label					
1st Quarter	15.12	N/A	N/A	74.61	89.73
2nd Quarter	15.04	N/A	N/A	76.61	91.65
3rd Quarter	15.63	N/A	N/A	80.04	95.68
4th Quarter	6.20	N/A	N/A	75.94	92.14
Year 1987	15.50[e]	N/A	N/A	76.80	92.30[e]
Year 1986	13.94[r]	N/A	N/A	70.35	84.29[r]

Private Label	Producer's Share	Processor's Share	Wholesale/Baker's Share	Retailer's Share
1st Quarter	7.5	12.7	65.6	14.2
2nd Quarter	7.3	12.3	63.7	16.7
3rd Quarter	6.8	12.7	63.6	16.9
4th Quarter	6.6	13.3	64.1	16.0
Year 1987	7.0	12.8	64.2	16.0
Year 1986	8.8[r]	12.6[r]	62.8	15.8
Store Label				
1st Quarter	9.0	15.3	N/A	75.6
2nd Quarter	8.9	15.0	N/A	76.2
3rd Quarter	8.0	15.0	N/A	77.0
4th Quarter	8.0	16.2	N/A	75.8
Year 1987	8.5	15.4	N/A	76.2
Year 1986	10.4[r]	14.8[r]	N/A	74.8

N/A - Not Applicable [a] Totals may not add due to rounding.
[r] Revised [e] Final payment for 1987/88 crop assumed to be zero.


Graph 1
BREAD PRICES 1987
AT PRODUCER WHOLESALE RETAIL LEVELS
Retail Price (Private Label)
Wholesale Price
Retail Price (Store Label)
Wholesale Value of Ingredients
Producer Value of Ingredients
DOLLARS PER HUNDRED LOAVES
130
120
110
100
90
80
70
60
50
40
30
20
10
0
JAN87 FEB87 MAR87 APR87 MAY87 JUN87 JUL87 AUG87 SEP87 OCT87 NOV87 DEC87
MONTHS


Graph 2
BREAD PRICES 1987
RETAIL PRICES EDMONTON AND CALGARY
Edmonton Price (Private Label)
Calgary Price (Private Label)
Edmonton Price (Store Label)
Calgary Price (Store Label)
DOLLARS PER HUNDRED LOAVES
130
125
120
115
110
105
100
95
90
85
JAN87 FEB87 MAR87 APR87 MAY87 JUN87 JUL87 AUG87 SEP87 OCT87 NOV87 DEC87
MONTHS

brands averaged $100.84/100 loaves at the retail level, up 7.2 per cent or $6.76/100 loaves over 1986 (Table 2).

Private label bread prices at the retail level followed a similar pattern to store label bread. Prices increased in the first three quarters before declining in the fourth quarter. Private label retail bread prices averaged $121.39/100 loaves in 1987, an increase of 9.7 per cent over 1986.

Edmonton and Calgary retail prices for both store label and private label breads followed a similar pattern for most of 1987. Edmonton store label brands were consistently higher priced throughout the year, averaging $103.86/100 loaves compared to $98.04/100 loaves in Calgary. Edmonton retail prices for private label brands were generally higher throughout the year, averaging $122.76/100 loaves compared to $120.13/100 loaves in Calgary.

Spreads and Share

The distribution of the consumer's bread dollar in 1987 is indicated in Table 2. The producer-retail spread for private label bread increased 11.9 per cent in 1987 to $112.85/100 loaves while the increase for store label bread was 9.5 per cent to $92.30/100 loaves. The producer-processor spread increased $1.56 (+11.2 per cent) for both private and store label breads in 1987. Processor-retail spreads increased $10.45/100 loaves and $6.45/100 loaves for private and store label breads respectively.

The producer's share for private label bread declined 1.8 percentage points to 7.0 per cent. Similarily, the producer's share for store label bread declined 1.9 percentage points to 8.5 per cent. The extent of these declines may have been exaggerated due to the assumptions underlying the methodology and therefore should be interpreted with caution.

The producer-processor and producer-retail spreads continued to widen in 1987 as a result of declining producer prices and an increase in processor and retail prices. The processor's share increased marginally in 1987, up 0.2 percentage points to 12.8 per cent for private label bread and 0.6 percentage points to 15.4 per cent for store label bread. The retailer's share from store label bread increased to 76.2 per cent in 1987 from 74.8 per cent in 1986. Similarly, the retailer's share from private label bread increased from 15.8 per cent in 1986 to 16.0 per cent in 1987.

For private label bread, processors, wholesalers and retailers all increased their share of the retail price while producers saw their share decline. For store label bread, processors and retailers increased their share while the producers share declined.

MILK

Prices

Milk prices at producer, wholesale and retail levels are shown in Graph 3. The prices on the graph correspond to and are calculated from minimum prices set by the Public Utilities Board (P.U.B.).

As minimum prices at all three levels are regulated by the P.U.B., there is little fluctuation in P.U.B. prices. At the producer level, to adjust producer prices to a retail equivalent basis, the value of butterfat produced surplus to fluid milk requirements is subtracted. Surplus butterfat is used to manufacture butter and cheese. As the surplus butterfat is essentially a by-product of fluid milk manufacturing, the value of the butterfat used in the manufacture of other dairy products is deducted from the producer price to derive a retail equivalent price. The value of surplus butterfat subtracted fluctuates with: 1) changes in consumer demand for the type of milk product which affects the quantity of total butterfat consumed in milk products; 2) the amount of butterfat produced per hectolitre of milk on farms and; 3) the butterfat differential (i.e. the price of butterfat) paid or deducted per 0.1 kg butterfat.

As a result, price fluctuations for milk at the producer level (retail equivalent basis) can be greater than P.U.B. regulated price fluctuations for Class I fluid milk.

At the producer level, the P.U.B. regulated price for Class I fluid milk started the 1987 calendar year at $48.13/hl. This declined to $47.15/hl in mid-June but reverted back to $48.13/hl in mid-September to end the calendar year at the same level it began.

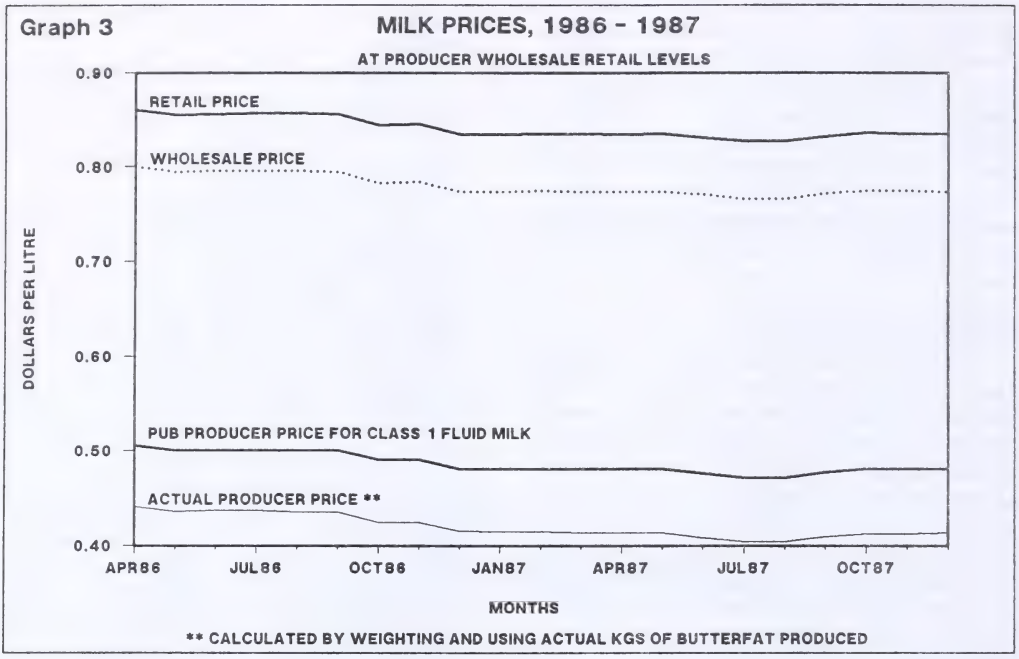
The actual producer price calculated by weighting and using actual kilograms (kgs) of butterfat produced followed the same pattern as the P.U.B. regulated producer price with

only subtle differences in the margin between them. This retail equivalent producer price began the year at $41.40/hl. A decrease to $40.80/hl in June followed by an increase to $41.20 in mid-September reflected changes in the P.U.B. regulated producer price.

At the wholesale and retail levels, weighted average prices were calculated based on the P.U.B.'s minimum wholesale and retail prices and actual fluid milk sales by month for the calendar year 1987.

The wholesale price started the year at $77.40/hl and declined to $76.60 in July following the June 15 P.U.B. price change. An increase in mid-September saw the wholesale price rise to $77.50/hl and remain at this level to end the year at $77.40/hl.

Graph 3



Retail prices followed a similar pattern starting the year at $83.50/hl. A reduction in June to $82.70/hl followed by an increase in September to $83.60 saw retail prices end the year at their original level.

For the calendar year 1987, producer prices averaged $41.10/hl, declining $2.5/hl (-5.73 per cent) from 1986 (Table 3). Wholesale prices averaged $77.30/hl, down $2.0/hl or -2.5 per cent from 1986. Retail prices for 1987 averaged $83.30/hl representing a decline of $1.7/hl (-2.0 per cent) from 1986.

The P.U.B. regulated minimum price of milk at the producer level was adjusted twice in 1987, reflecting changes in the feed cost component of the milk pricing formula used by P.U.B.

Spreads and Share

The distribution of the consumer's milk dollar is shown in Table 3. The producer-wholesale spread increased in 1987, averaging 36.2¢/litre, an increase of 0.5¢/litre (+ 1.4 per cent) over 1986. The wholesaler's share as a per cent of retail prices averaged 1.5 percentage points higher at 43.5 per cent. While the retail price of fluid milk declined in 1987, the retailer's share increased 0.5 percentage points to 7.2 per cent.

In 1987, the producer's share of the consumer's milk dollar declined to 49.3 per cent, down 2.0 percentage points. The wholesaler's share increased 1.5 percentage points to 43.5 per cent while the retailer's share increased 0.5 percentage points to 7.2 per cent from 6.7 per cent the previous year.

TABLE 3
QUARTERLY MILK PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per litre)

	Producer Price*		Wholesale Price		Retail Price	
	1986	1987	1986	1987	1986	1987
1st Quarter	.448	.414	.798	.774	.845	.835
2nd Quarter	.438	.411	.797	.773	.857	.833
3rd Quarter	.436	.406	.796	.768	.857	.829
4th Quarter	.421	.412	.780	.775	.841	.835
YEAR	.436	.411	.793	.773	.850	.833

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	.350	.360	.047	.061	.397	.421
2nd Quarter	.359	.362	.060	.060	.419	.422
3rd Quarter	.360	.362	.060	.061	.420	.423
4th Quarter	.360	.363	.061	.060	.420	.423
YEAR	.357	.362	.057	.060	.414	.422

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	53.0	49.6	41.4	43.1	5.6	7.3
2nd Quarter	51.1	49.4	41.9	43.5	7.0	7.2
3rd Quarter	50.9	49.0	42.0	43.7	7.1	7.3
4th Quarter	50.1	49.4	42.7	43.5	7.3	7.2
YEAR	51.3	49.3	42.0	43.5	6.7	7.2

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.
* Prices actually received by producer calculated by weighting and using actual kgs of butterfat produced.

PORK

Prices

Producer, wholesale and retail pork prices on a retail equivalent basis are shown in Graph 4. In 1987, prices at the producer level showed a decline in the first quarter of the year, an increase in the second and third quarters, followed by a decline in the fourth quarter. Except for a slight decline in the second quarter, wholesale prices followed the same trend as producer prices. At the retail level, prices in Edmonton and Calgary declined in the first and second quarters of 1987 before increasing to their highest level for the year in the third quarter, then declining moderately to the end of the year.

Increased Canadian hog production in 1987 contributed to the 2.3 per cent decline in Alberta producer prices from $2.21/kg in 1986 to $2.16/kg in 1987. However, since payments to producers under the Tripartite Red Meat Stabilization Program have not been included in the analysis, this would have underestimated the producers' receipts for pork. While producer prices declined, both wholesale and retail prices showed an increase over 1986. Wholesale prices averaged $3.81/kg, an increase of 5.3 per cent over 1986, and retail prices at $5.57/kg were 6.1 per cent higher in 1987.

Retail pork prices in Edmonton and Calgary did not differ markedly in 1987 with Calgary retail pork prices being 2.5 per cent higher overall.

Spreads and Share

The producer-wholesale spread widened again in 1987 (Table 4). On an annual average basis, the spread increased 18.6 per cent from $1.40/kg to $1.66/kg due to lower producer prices. Wholesale-retail spreads also rose in 1987. For the year, the spread widened to $1.76/kg from $1.64/kg, up 7.3 per cent. Producer-retail spreads increased 12.2 per cent from $3.04/kg to $3.41/kg.

The producer's share of the consumer's pork dollar decreased from 42.0 per cent to 38.7 per cent in 1987, a decline of 3.3 percentage points. Both the wholesaler's and retailer's share increased in 1987. The wholesaler's share increased 2.7 percentage points to 29.7 per cent while the retailer's share increased 0.7 percentage points to 31.7 per cent.

Graph 4

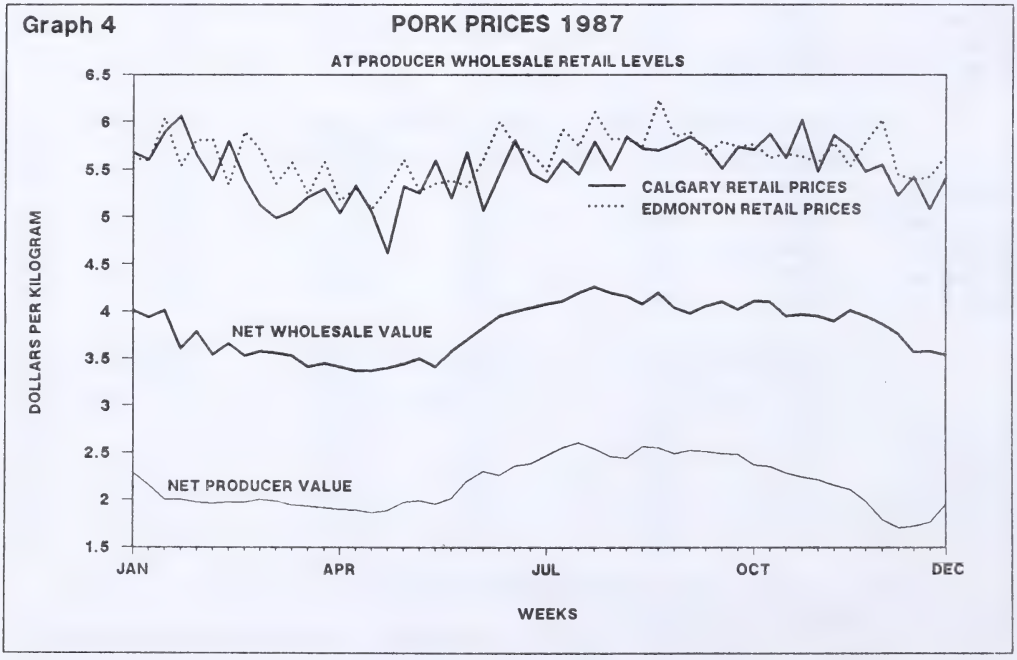


TABLE 4
QUARTERLY PORK PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1986	1987	1986	1987	1986	1987	Edm. 1987	Cal. 1987
1st Quarter	1.94	2.00	3.36	3.66	4.67	5.55	5.47	5.62
2nd Quarter	1.86	2.07	3.22	3.61	4.68	5.37	5.30	5.45
3rd Quarter	2.62	2.51	3.85	4.11	5.72	5.75	5.66	5.83
4th Quarter	2.43	2.04	4.03	3.86	5.93	5.61	5.57	5.64
YEAR	2.21	2.16	3.62	3.81	5.25	5.57	5.50	5.64

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	1.42	1.66	1.31	1.89	2.73	3.55
2nd Quarter	1.36	1.54	1.46	1.76	2.82	3.30
3rd Quarter	1.22	1.60	1.87	1.63	3.10	3.23
4th Quarter	1.60	1.82	1.90	1.75	3.50	3.56
YEAR	1.40	1.66	1.64	1.76	3.04	3.41

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	41.5	36.1	30.4	29.9	28.1	34.1
2nd Quarter	39.7	38.6	29.1	28.7	31.2	32.8
3rd Quarter	45.9	43.7	21.5	27.8	32.7	28.5
4th Quarter	41.0	36.4	27.0	32.4	32.0	31.2
YEAR	42.0	38.7	27.0	29.7	31.0	31.7

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.

BEEF

Prices

Alberta slaughter cattle and beef wholesale prices declined in the first quarter of 1987 from the fourth quarter of 1986, due to increased supplies and increased carcass weights during this period (Graph 5). Renewed price strength in the second quarter of 1987 was the result of tightening supplies and a narrowing of the basis between Alberta markets and other Eastern Canadian and U.S. markets. Producer and wholesale beef prices declined slightly in the third quarter before ending the year at just above third quarter levels. Retail beef prices showed a gradual increase from the fourth quarter of 1986 through to the end of 1987.

Producer, wholesale and retail beef prices were higher in 1987 than in 1986(Table 5). Producer prices increased to $3.99/kg in the second quarter before declining to $3.86/kg in the third quarter to end the year at $3.88/kg. For the calendar year, producer prices were 8.8 per cent higher due to lower beef production in 1987. Wholesale prices followed a similar pattern to producer prices peaking at $4.18/kg in the second quarter before dropping off to $4.06/kg in the third, then ending the year at $4.09/kg. For the calendar year, wholesale prices were 6.3 per cent higher than in 1986. Retail beef prices were 10.2 per cent higher overall in 1987 than in 1986.

Spreads and Share

Producer-wholesale spreads in 1987 declined 20.7 per cent from $0.29/kg in 1986 to $0.23/kg in 1987 due to strengthening producer prices. Wholesale-retail spreads increased throughout the year. The 1987 annual average spread was $3.15/kg compared to $2.75/kg in 1986. Producer-retail spreads were also higher in 1987. The annual average spread was $3.38/kg, up 11.9 per cent over 1986.

The producer's share of the consumer's beef dollar declined marginally in 1987 from 54.0 per cent to 53.2 per cent. The wholesaler's share declined 1.2 percentage points to 3.2 per cent while the retailer's share was consistently higher in 1987 and averaged 43.6 per cent, up 2.1 percentage points over 1986.

Graph 5

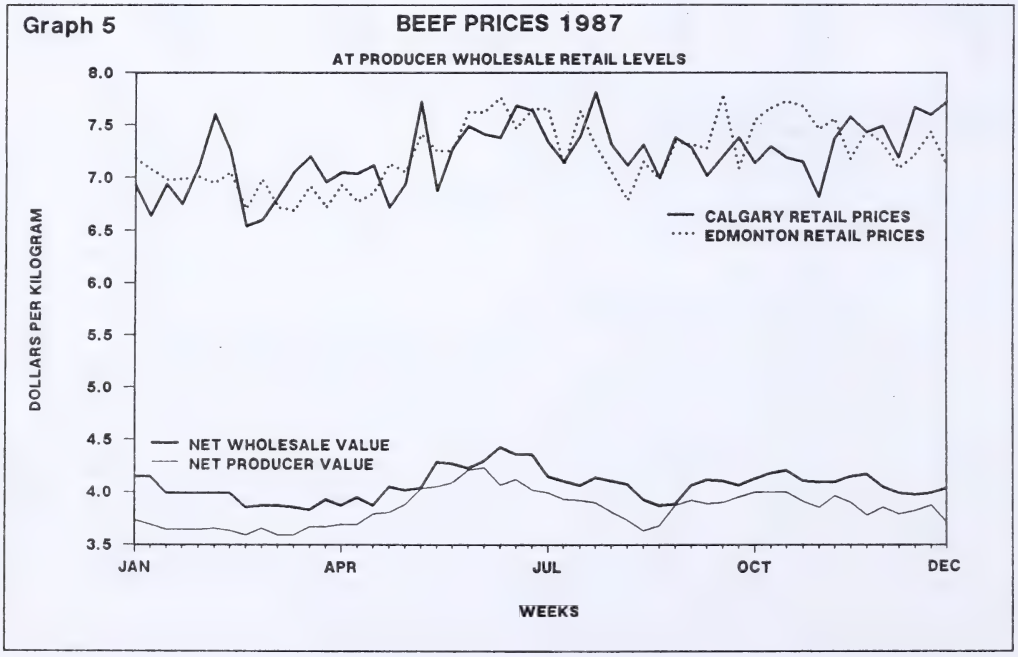


TABLE 5
QUARTERLY BEEF PRICES[a], SPREADS AND SHARE, 1987[b]
(Dollars per kilogram)

	Producer Price		Wholesale Price		Retail Price			
	1986	1987	1986	1987	1986	1987	Edm. 1987	Cal. 1987
1st Quarter	3.48	3.65	3.83	3.96	6.47	6.94	6.92	6.95
2nd Quarter	3.37	3.99	3.64	4.18	6.37	7.27	7.29	7.26
3rd Quarter	3.49	3.86	3.76	4.06	6.45	7.28	7.27	7.28
4th Quarter	3.83	3.88	4.09	4.09	6.92	7.39	7.42	7.36
YEAR	3.54	3.85	3.83	4.07	6.55	7.22	7.23	7.21

	Producer-Wholesale Spread		Wholesale-Retail Spread		Producer-Retail Spread	
	1986	1987	1986	1987	1986	1987
1st Quarter	.34	.31	2.67	2.98	3.01	3.29
2nd Quarter	.28	.18	2.72	3.10	3.00	3.28
3rd Quarter	.28	.20	2.70	3.22	2.97	3.42
4th Quarter	.26	.21	2.84	3.29	3.10	3.51
YEAR	.29	.23	2.73	3.15	3.02	3.38

	Producer's Share		Wholesaler's Share		Retailer's Share	
	1986 %	1987 %	1986 %	1987 %	1986 %	1987 %
1st Quarter	53.8	52.5	5.4	4.5	40.8	42.9
2nd Quarter	52.9	54.9	4.2	2.6	42.9	42.5
3rd Quarter	54.1	53.0	4.2	2.7	41.7	44.2
4th Quarter	55.3	52.5	3.8	2.8	40.9	44.7
YEAR	54.0	53.2	4.4	3.2	41.5	43.6

[a] Retail equivalent prices at producer and wholesale levels.
[b] Totals may not add due to rounding.